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PASPCR Newsletter

March 2002
Vol. **10** Number **1**

Introduction...

by Bill Oetting

10th Anniversary of

The PASPCR Newsletter!

This is the 10th volume of the ***PASPCR Newsletter***. The *PASPCR Newsletter* has actually been in existence for more than 10 years. The first PASPCR Newsletter (Volume 1, Number 1) was produced by Dick King, DeWayne Townsend and Nels Granholm in May of 1990. This was a 6 page newsletter that contained information about the PASPCR meeting in Edmonton Alberta, a message from our first PASPCR President, James J. Nordlund and an update from the first Editor-in-Chief of Pigment Cell Research, Joseph T. Bagnara. A second Volume 1 Number 1 was created by Vince Hearing in 1993, and continued to be the editor of the newsletter until 1998 when I became the editor. With the exception of the 1990 newsletter, all issues are available at the PASPCR Web site. The PASPCR Newsletter has now undergone a "facelift". This new format will hopefully make the newsletter easier and more enjoyable to read.

The ***PASPCR Newsletter*** is published quarterly and is intended to serve as a means of communication for the members of our Society. You are invited to contribute articles, or other information you feel will be of interest to members of the PASPCR. If you attend a scientific meeting and have heard results which you think will be of interest to the membership of the **PASPCR**, please write a few paragraphs summarizing what was presented and share it with us. Any information on upcoming meetings of interest will be added to the "Calendar of Events". We also want to note any change of affiliation or address that you may have had to help us keep our membership list up-to-date. This is your Newsletter, and we depend upon you to help us make sure it best serves the Society's needs. Contributions and comments can be sent to me, preferably by E-mail, to bill@lenti.med.umn.edu.

There are now new web addresses that will take you to the home pages of the International Federation of Pigment Cell Societies (**IFPCS**) and the International Pigment Cell Conference (**IPCC**). The IFPCS web site can be found at **www.ifpcs.info** and the IPCC web site is at **www.ipcc.info**.

The **PASPCR Web Site** is the major, up-to-date source of current information for the PASPCR membership. Please check you address information to make sure that it is up-to-date. The PASPCR Web site is not only a source of new information, but also a repository on the history of the Society. If there is additional information that you would like to see on the Web site, or information of past PASPCR activities, please let me know and I will

The PASPCR Web Site can be found at:

http://www.paspcr.org

In this Issue . . . . .

The PanAmerican Society for Pigment Cell Ressarch

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IFPCS Represenative:

Richard A. King

Calendar of Events:

July 1-5, 2002 20th World Congress of Dermatology will be held in Paris.
Contact: Philippe Fournier, 12, rue de la Croix Faubin, F - 75557 Paris cedex 11
Phone: 33.(0).1.44.64.15.15
Fax: 33.(0).1.44.64.15.16
E-Mail: p.fournier@colloquium.fr
Web site: http://www.derm-wcd-2002.com/

July 14-19, 2002 XIXth IUPAC Conference on Photochemistry will be held in Budapest.
Contact: The Hungarian Chemical Society, (MKE), Fu u. 68. Hungary, H-1027 Budapest,
Phone: 36-1-201-6886
Fax: 36-1-201-8056
E-Mail: mail.mke@mtesz.hu.

Sept 9 - 13, 2002 The XVIIIth International Pigment Cell Conference, to be held in The Hague, Holland.
Contact: Dr. Stan Pavel, President ESPCR, University Hospital Leiden, Dept of Dermatology, PO Box 9600, NL - 2300 RC LEIDEN
Phone: 31-(71) 526 1952
Fax: 31-(71) 524 8106;
E-mail: SPavel@algemeen.azl.nl
Website: http://www.ipcc.info

Sept 3-7, 2003 XIth Annual Meeting of the PanAmerican Society for Pigment Cell Research, to be held in Wood's Hole, MA.
Contact: Dr. Jean Bolognia.
E-mail: jean_bolognia@qm.yale.edu.

2003 XIth Annual Meeting of the European Society for Pigment Cell Research, to be held in Gent.
Contact: Prof. JeanMarie Naeyaert.
E-mail: JeanMarie.Naeyaert@rug.ac.be.

The *PASPCR Newsletter* is published quarterly by the PanAmerican Society for Pigment Cell Research. All views are those of the authors. For further information or to submit articles, please contact members of the Publications Committee.

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Congratulations!!!

Congratulations to new members of the PASPCR council.

Ruth Halaban
Bryan Fuller
Brian Potterf

We wish to thank outgoing council members, **Meenhard Herlyn**, **Helene Z. Hill** and **Giselle Thibaudeau**, for their contributions to our society during the last 3 years.

Corporate Sponsors

by Raymond E. Boissy

The PASPCR would like to acknowledge and thank our Corporate Sponsors; the list below reflects contributions over the past 2 years. Financial gifts from these sponsors have allowed our Society to increase benefits to the membership far out of proportion to the actual dues collected from members. Monies contributed by these sponsors have been used over the years to support various PASPCR functions including our Young Investigator Award program, meeting travel stipends, annual meeting expenses and this Newsletter.

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A Message from the President

Fellow PASPCR Members,

I am privileged and honored to be your new president. As I address this letter to you, I reflect on the remarkable achievements of our society since its inception in 1986. Over the years, a main goal of our society has been to encourage and nurture young scientists, and foster collaborations among pigment cell research laboratories. The Pan American Society for Pigment Cell Research gave us a voice, and helped put our specialty at the forefront of science. These achievements were the making of the entire membership, under the leadership of dedicated and insightful Officers and Council members. I was once the young scientist whose career was tremendously enriched and advanced by PASPCR.

As I begin my term as President, I pledge to use my experience as a member, previous council member and President-Elect, and the lessons I learned from previous officers, to serve our society. I count on your individual support and participation in PASPCR functions and activities. We have challenges to face and goals to meet. I seek your help in increasing the membership and visibility of PASPCR, and in participating in the various committees that will strengthen the structure of our organization. I encourage to voice your suggestions and concerns, and to communicate directly with the Officers and Council members. PASPCR is YOU, and its progress is entirely dependent on your contributions and participation.

On behalf of the entire membership, I extend our sincere gratitude to Richard King, the Past-President, and James Nordlund, the past Secretary-Treasurer, for their leadership and many years of service of our society. I also welcome the new Officers, John Pawelek, President-Elect, and Raymond Boissy, Secretary-Treasurer, and Bryan Fuller, and Brian Potterf.

Sincerely,

Zalfa

Mouse News

by Lynn Lamoreux

The Wellcome Trust Congenic Mouse Repository web site is:

http://www.sghms.ac.uk/depts/anatomy/pages/WTFGMPMR.htm

You will see on this web site several stocks that will soon be discontinued. They are described below.

1. Melanogenesis

It is obvious that the albino, slaty and brown loci control interacting functions within the pigment cell. With this in mind, we created a panel of congenic mutant mice that can be used to study the interacting functions of the albino, slaty and brown loci in all combinations without interference from unrelated background genes. If you are interested in receiving this panel of mice or any of its subunits please let us know. We also have slaty-light on C57BL/6J and would consider replacing slaty with slaty light in this panel if there is enough interest. If you can use a panel of congeinc melanocytes derived from these mice, please be sure to let us know before the mice have left us in about 3 months (June). All stocks are congenic with C57BL/6J.

The key to these old-fashioned gene symbols, for those who think molecules, is below.

Wild type albino locus	**Chinchilla**	**Slaty**
C/C B/B Slt/Slt *wild type*	c^{ch}/c^{ch} *B/B Slt/Slt chinchilla*	C/C B/B slt/slt *slaty*
C/C b/b Slt/Slt brown	c^{ch}/c^{ch} *b/b Slt/Slt chinchilla brown*	_____
C/C/ b/b slt/slt brown slaty	c^{ch}/c^{ch} *B/B slt/slt chinchilla slaty*	c^{ch}/c^{ch} *b/b slt/slt chinchilla brown slaty*

Albino is	$Tyr^{c\text{-}2J}$
Chinchilla is	$Tyr^{c\text{-}ch}$
Black is	$Tyrp1^{B}$
Brown is	$Tyrp1^{b}$
+ Slaty is	$Tyrp2^{Slt}$
Slaty is	$Tyrp2^{slt}$

We also have the following mice control stocks. We will keep albino black because it is needed for backcrossing. Albino brown and albino slaty will go. Regarding albino cordovan, which is used in another panel of stocks to evaluate silver, see below.

Albino with Black
Albino with slaty
Albino with brown
Albino with cordovan (see below): Cordovan is $Tyrp2^{b*c\text{-}J}$

2. Melanocyte survival (or not)

a. White Spotting

Our belted (*bt)* stocks are also well controlled, with all genotype combinations against a uniform C57BL/6J background.

	Not yellow	**Recessive yellow**
Not Belted	*Bt/Bt E/E*	*Bt/Bt e/e*
Belted	*bt/bt E/E*	*bt/bt e/e*

Yellow belted mice have smaller white spots than do nonyellow belted mice (Lamoreux & Russell, *J. Heredity*, 70:31-36, 1979). The spotting phenotype of the yellow belted mice, which often includes little islands and escaper pigmented cells within the white area, suggests that the melanocytes populate the entire mouse during development and are later unable to survive in some areas of the body. This may also be true of other spotted mice, but not of all types of spotting. Interestingly, the location of the belted spot, uniquely among white-spotted mice studied, does not vary as a result of differences in background genome (Lamoreux, *Pigment Cell Research*, 12:383-390, 1998).

You will probably be more interested in our observation that the recessive yellow belted mice have a much higher incidence of hydrocephaly than is the case with congenic normal C57BL/6J mice that are neither yellow nor spotted, and also higher than that observed in the congenic black belted mice. We plan to discontinue these stocks unless interest is expressed.

b. Silver

Another panel of congenic mutant mice that we are considering discontinuing illustrates a functional interaction between silver and brown. The phenotypes of these mice do not correspond to the literature descriptions. Our unpublished observations suggest this may be for two reasons: 1. These mice are not agouti;

2. There may be one or two interacting loci in the background genome that are segregating, that are not

Mouse news (continued)

otherwise apparent in the phenotype, certain combinations of which may be necessary for the full expression of silver that has been described in the literature. Whatever the case, black silver (*B/B si/si)* on a C57BL/6J background is barely distinguishable from wild type. However silver brown (*b/b si/si)* and to a greater extent silver cordovan *(b^c/b^c si/si)* are definitely silver in phenotype compared with the non-silver littermates. Furthermore, on this background, silver is recessive with no intermediate phenotype.

So, all in all, it is probable that another one or two "pigment" genes remain to be found that interact in the melanosome. In any case, our silver stocks are well designed to study silver in absence of confusing phenotypic effects mediated at other loci. So please let us know if you have an interest either in these mice or in melanocytes of the same genotypes.

	Black	**Brown**
Silver	B/B si/si	*b/b si/si*
Not Silver	*B/B* +/+	*b/b* +/+

	Cordovan	**albino/cordovan**
Silver	b^{cJ}/b^{cJ} *si/si*	b^{cJ}/b^{cJ} *si/si* c^{2J}/c^{2J}
Not silver	b^{cJ}/b^{cJ} +/+	b^{cJ}/b^{cJ} +/+ c^{2J}/c^{2J}

The albino stock is included in this group as a control and because of the interesting observation by Budd & Jackson (*Genomics*, 29:35-43, 1995) slaty-light mice that are also albino do not lose melanocytes as do slaty-light mice that are not albino. This is a question that has not been asked of silver – or of the silver/brown combination.

Lynn Lamoreux (MLLamoreux@hotmail.com)

Speaking of Pigs --

We are delighted that the Sinclair Swine have been saved, and even better they have been saved without us doing any of the work!!

Nevertheless, Dr. Amoss has expressed his great appreciation to our vitiligo/melanoma group for their generous offer of help in case the worst had come about and the pigs completely lost.

LL

Keep the membership informed.

If you have news about a member of the PASPCR, please let us know. Contact a member of the publications committee and we will make sure that it is in the next issue.

Positions Wanted and Available

The **PASPCR Web Site** and the **PASPCR Newsletter** contains positions wanted and available related to pigment cell research. This information is presented as a service to the members of the The PanAmerican Society for Pigment Cell Research (PASPCR).

Postings for **Positions Available** will be open to all individuals and institutions so long as the position is related to pigment cell research. Postings for **Positions Wanted** will be open only to members of the PanAmerican Society for Pigment Cell Research or its sister societies (JSPCR and ESPCR). Send postings to Bill Oetting at bill@lenti.med.umn.edu . Please provide an expiration date for any submitted postings. Final decisions will be made by the Publications Committee of the PASPCR.

Positions Wanted and Available can be seen on page 13 of this Newsletter.

Image from Bill Pavan, N.I.H.

And now for the rest of the story.

Jim Nordlund has been traveling to Africa for many years, working at medical clinics in many different settings. I ask Jim to write down some observations and thoughts about his experiences during his visits.

A Visit to Eden

James J. Nordlund, M.D.

The earliest humans were thought to have lived in Tanzania, probably in the Olduvai gorge. How fortunate for humanity to have arrived in a place that can be described most easily as a garden of Eden. The snow capped summit of Mount Kilimanjaro provides the backdrop for a countryside covered with flowers and exotic foliage. And the Serengeti plains are filled with spectacular animals, zebras, wildebeests, elephants, lions and rhinoceros. Even today, these sights must be similar to those viewed in wonderment by our first parents, Adam and Eve.

Tanzania the Nation

Tanzania is a union of two nations, Tanganyika and Zanzibar which merged after they achieved independence from Great Britain. From the two names was formed the contraction "Tan + zania". Zanzibar is an island lying just 20 miles from the mainland in the Indian ocean. It had been settled by Arabs for over a millennium. Marco Polo in the 12th century visited Zanzibar. Until the beginning of the 19th century, it was actively involved in the slave trade. Zanzibar still is the world's foremost grower of cloves. Its largest city is called "Old Town" built centuries ago. Its streets are just wide enough for two people or one bicycle to pass. The buildings are quaint and hundreds of years old but charming. The lives of the people there have not changed much. Most of the work is still done with ancient techniques without the assistance of machines. The beaches of Zanzibar are spectacular. The ocean is green, warm and the beaches lined with coconut trees. Local natives use a short hemp rope wrapped around their feet to climb the coconut palm trees that reach 60 or 70 feet in height.

Tanzania was a colony of Germany from the late 19th century until after World War I when it was handed over to England in reparation for that war. The British kept it as a colony until December 9, 1961 when it gained its independence under Julius Nyerere. Nyerere was the first president and was highly respected by Tanzanians, most Africans and by the leaders of the western nations. He was affectionately called "Mwalimu" meaning "Teacher", a title of highest respect. He died in October, 1999 from leukemia. Under Nyerere, Tanzania was allied with China and espoused socialism. Many western expatriates departed for their homes and the country fell onto hard times for complex reasons. In the l990's Tanzania joined the western political and economic systems but it is economically far behind. It is one of the 3 or 4 poorest nations in the world. The annual family income is about $200. Tanzania has a subsistence economy and virtually all people farm and raise chickens, goats or occasionally a cow for meat. Maize and beans are the main sources of daily food. If the weather is bad and the crops poor, famine is a certainty unless the Western nations provide assistance.

The government of Tanzania collects a mere billion dollars a year in tax income. That amount is less than what most medium sized western cities have for an annual budget. A third of this tax money is used to pay interest to western nations for loans from the World Bank. There is little money to spend on improving the infrastructure of the country. Roads, railroads, electrical systems, telecommunications, water and schools are in disrepair and require extensive rebuilding. The government can spend just $5 per person annually for medical care, less than the cost of a few anti fungal pills!

Remarkably the people living in Tanzania are happy and most have smiles on their faces but they are not satisfied with their poverty and hard lives. They live in huts often made of mud with a thatched roof. But the walkway from the road to their home is swept clean daily. Along the walk are flowers. Craft work, carvings, flowers and other attractive items proudly decorate the front of most homes. The interior of their homes are also adorned with hand made crafts. At night these homes are warm, dry and safe. Families are together. There usually is enough food even if not always the best food. We learned from observing them that happiness is a state of mind, not a function of wealth, a fancy house or modern goods.

Water is a problem. Very few families have running water. It must be obtained daily, usually from pumps or streams that might be a mile away. Each morning one member of the family goes off to get water carried in large buckets balanced on their heads as they walk home. And virtually all water available to these people is contaminated with amoebae or other pathogens.

Kilimanjaro Christian Medical Center (KCMC)

The hospital at the Kilimanjaro Christian Medical Center was built by the Good Samaritan Foundation in 1972. Presently there are over 40 physicians and specialists from Germany, the U.S., England and other countries who work at the KCMC. There are an equal number of well trained Tanzanian doctors practicing there. All specialties are represented except for a few surgical disciplines (neurosurgery, plastic and cardiac surgery) that are available only in Dar es Salaam. Surgery, anesthesiology, orthopedics, pediatrics, urology, radiology for routine X rays and CT scans are located in this three story facility. Dermatology has a female and a male ward located on the medical service.

The Tanzania doctors are employed by the government and receive about $100-150 monthly. Often they have a private practice to supplement their incomes. The western doctors are volunteers, missionaries or supported by foundations. They all live in modern houses supplied with running water and electricity that are located just a few blocks from the hospital. Their children go to the International School of Moshi where they study with other children whose families are from anywhere and everywhere in the world.

The hospital has over 450 beds. Often occupancy is over 100% because there are more than one person per bed. It doesn't sound attractive but there are no other hospitals as capable as KCMC. After the aisles and hallways are filled with beds, there is no more room unless two patients share a bed. It works.

The KCMC serves the hundreds of thousands of people that live around Moshi. In addition it is a referral hospital for all of northern Tanzania and southern Kenya. People often travel days to get medical help. They arrive in the outpatient clinics desperately ill and without resources to return home. Admissions are necessary to work up the problem and get them started on the way to health. A day in the hospital there is inexpensive, about 75 cents. A cesarean section costs about $15. But for the patients, the cost is high since most have just a few dollars. Often they must buy medications after leaving. The hospital does discount costs for those who cannot afford to pay.

KCMC is dedicated to teaching Tanzania students. There is a school of nursing, medical records, for assistant medical officers, for ophthalmology technicians, for nurse anesthetists, prosthetic technicians and of course the RDTC for dermatology. There is a library but its holdings are so inadequate that it has little value. Students cannot afford textbooks. Purchasing a modern textbook for $200 is beyond any expectations. Students take notes in class from which they study.

There was only one medical school in Tanzania located at the University of Dar es Salaam. In 1998 KCMC started a second medical school called the Tumaini (Kiswahili for Hope) College of Medicine. The first class of 16 medical students matriculated in 1998 and the second class the following year. Students are given modern textbooks of physiology, anatomy and biochemistry to use. Two students share one book. Class notes are key to learning. Even paper and pencils are limited. The students are eager, interested and want to learn. They work very hard to be the best doctors they can. A year at medical school costs about $3000 for board, room and tuition.

KCMC does receive some support from the Tanzanian government but the amount is meager. KCMC and the medical school get most of their support from non governmental sources, especially foundations and other international relief and charitable organizations. The medical school is trying to develop an endowment to subsidize the medical school since few of the students can afford the tuition and other fees. Medical school is 6 year program similar to the programs in England. After graduating, students spend another 4 years doing a family medicine type residency. Tanzania and other 3rd world countries mostly need family doctors with general skills. Specialists are needed only in the medical centers like KCMC and in Dar es Salaam.

Regional Dermatology Training Center (RDTC) at KCMC

In the 1970's, two very prescient dermatologists, Orlando Canizares and Morris Samitz, recognized the need for advanced training in dermatology in underdeveloped nations. (Samitz 1980; Samitz and Canizares 1981) The International Foundation for Dermatology was organized and plans for the RDTC implemented. In the last 10 years, Dr. Al Kopf in the United States (Ryan 1990; Kopf 1993; Kopf, Ryan et al. 1996; Ryan 1996) and Dr. Terence Ryan in London (Ryan 1990) have done a remarkable job generating international support of all types for the RDTC.

There were three full time members of the faculty. Dr. Henning Grossman is the principal (i.e., chairman of the department) of the dermatology program. Henning and his family are from Germany. He is a dermatologist and has extensive training in tropical diseases. He is an expert in leprosy. He came to KCMC in 1990 to start the RDTC. He was responsible for

getting the program started, overseeing the construction of the RDTC school and student hostel and endless other administrative tasks.

Dr. Barbara Leppard is from the U.K. She and her husband, Jim, came to Moshi about 8 years ago. Barbara is a certified dermatologist who gave up a faculty position in England to pursue her desire to teach and assist the underprivileged and to bring them the Christian religion. She works all week at the RDTC in the clinic seeing patients and teaching students. She developed the educational program for the students. On weekends she joins with local clergy to care for the souls of those less fortunate. She recently returned to England because of illness. Her contributions to the success of this facility are immeasurable.

Dr. John Masenga is a Tanzania physician who completed a residency in dermatology in Germany. He is an expert on sexually transmitted diseases and atopic dermatitis and has taken on the additional responsibility of being Dean of the school for assistant medical officers. He will assume the duties of principal in the coming year.

The RDTC matriculates 12 or so students each year. The students come from all over Tanzania and from many other surrounding countries such as Kenya, Malawi and Mozambique. Most are the equivalent of physician assistants, called in Tanzania "assistant medical officers" or AMO's for short. They all are experienced clinicians and knowledgeable in western and traditional medicine. They care for people with all sorts of diseases such as malaria, intestinal parasites, tuberculosis, onchocerciasis, many forms of sexually transmitted diseases. They come to the RDTC to learn dermatology. They depart from their spouses and children for two years and remain mostly at the RDTC. Travel from their homes to school by bus takes 3 to 4 days one way, occasionally longer. After completing their studies and passing the examinations they return to their villages where they use their skills to teach others and care for those with skin diseases. The students are a joy to teach. They care, are interested and work hard. Over 60 students have graduated and returned to their homes in Tanzania, Kenya, Malawi and other countries.

During 1998 a 4 year residency in dermatology for medical doctors was started at the RDTC. One student has completed his training and now has returned to his home in Ghana. Another resident from Kenya is continuing her studies. Other graduate doctors have applied to the dermatology residency for future years. The RDTC building is new and very modern and was built with international support, especially from the International Foundation for Dermatology (IFD). The building provides a new, pleasant place with modern amenities to teach the students. And it houses a clinic where people from the surrounding and even distant communities can get dermatological care while the students learn. The students and residents function in clinic much like residents in the training programs in the U.S. They care for patients under the supervision of the faculty. The RDTC has a library with a large number of excellent books, only a few of which are outdated and old. New textbooks are purchased yearly and the library is the best in northern Tanzania. It has its own copy of *The Pigmentary System: Physiology and Pathophysiology*. Journals are often incomplete. There are many volumes of the *Journal of the American Academy of Dermatology* (JAAD), the *Archives of Dermatology*, the *British Journal of Dermatology* (BJD) and some journals dedicated to tropical diseases or sexually transmitted diseases. There are classrooms and offices on the second floor.

The educational program at the RDTC is remarkable for many reasons. Two qualities stand out. First the students are taught the most modern medicine and dermatology. In addition to learning the newest information about skin diseases, these students must learn how to treat disorders with inexpensive, local resources. Impetigo is easily treated with oral antibiotics or applications of mupirocin ointment. But these medications are not available in Tanzania and are too expensive for general care. So the students learn an extensive pharmacopoeia of older treatments such as the use of gentian violet, benzyl benzoate emulsion (for scabies) or tar for psoriasis. And they learn how to prepare these medications, even tar which is obtained from local construction sites. Often they combine modern medicine with the traditional medicines of herbs and potions prepared by local traditional doctors. Respect for traditional medicine and traditional practitioners is important for insuring that patients who are not responding to traditional medicine are referred for modern care. Often herbs are inexpensive ways to treat minor conditions that are self healing.

A second feature of the program is even more important. The students are trained to teach. They are expected to practice modern medicine but they also are trained to teach friends and colleagues to practice modern medicine. This program of training teachers produces an amplification system. Each of the 60 graduates can teach 5 or 10 more colleagues to practice medicine. The result could be a huge improvement in quality of medicine practiced. Teaching teachers is equivalent to showing people how to lift themselves up

with their own bootstraps.

Dermatology and Medicine in Tanzania

Three mornings a week there are clinics at the RDTC for patient care. Two are for general care and Friday morning is restricted for a pediatric clinic. The number of patients in any clinic can vary from as few as 30 or to as many as 130. Students and faculty together see patients in 6 exam rooms. Several excellent nurses, Sisters Urio and Sandi, and their assistants keep order in the clinic and get the patients into the proper place. After being seen by the doctor, patients stop at the pharmacy where Mr. Kasanga, the pharmacy technician, dispenses topical medications and occasionally oral medications prescribed by the physicians. Many of the topical medications are prepared by him in a formulation room made out of a shipping container that is located behind the RDTC. From powders such as hydrocortisone or lindane purchased in the U.S or Germany, he prepares topical medications that are not available from other sources, at least not at a reasonable cost.

Many of the cutaneous disorders are similar to those we see in western countries. Various forms of eczema are one of the most common dermatological problems. Acne, scabies, tinea capitis (called shillingi because the round spots of hair loss resemble the shilling coins) are routine. Some problems are not found in the U.S. Myiasis or maggots is caused by flies laying eggs on clothes that are hanging out to dry after being laundered. The eggs hatch and the larvae burrow into the skin. Myiasis can be prevented by ironing all clothes but most people do not have electricity. I had myiasis once and the treatment is application of petrolatum. The larva crawls out of the skin and the lesion is healed.

Few people wear shoes. Most wear flip-flop sandals. Sand fleas (*tunga penetrans*) that live in the dust burrow into the toes and interdigital web spaces. If not treated, the space becomes a haven for *Clostridia tetani* and the patient can get tetanus. The lesions look like warts to the unknowledgeable clinician. Of course some patients have a tropical disease such as leprosy, onchocerciasis, filiariasis or elephantiasis. We saw several people who survived attacks by wild animals such as leopards.

Knowing about most of the tropical diseases is not so difficult. A few months of study brings one up to par. But the challenge is to find treatments when there are few resources. Lindane is not easy to get and a 2 ounce bottle costing $2-3 is prohibitively expensive for many families. Scabies often is treated with benzyl benzoate emulsion (BBE). The entire family must be treated several times with BBE, a large number. Households are composed of husband, several wives, many children, grandparents and relatives. Treating 20-25 people for scabies is a challenge especially since often the people walk to the clinic, a distance that can be many miles and take many hours. Gentian violet, not Bactroban, is the treatment for impetigo. Topical steroids are scarce and limited in potency and available vehicles. It is finding how to solve problems that is the challenge.

Herpes zoster or shingles is very common and is almost always a manifestation of AIDS. It is thought that about 10% of the population of Tanzania has HIV. About 60% of those in the hospital are HIV positive. A great deal of effort is being expended by the government, religious groups, volunteers and Tanzanians to stop the spread of this disease. Kaposi's sarcoma (KS) was common and generally a manifestation of HIV although we did see patients with classical and endemic KS on occasion. In Tanzania there are no systemic treatment for KS, AIDS or its complications but the RDTC does have a radiation therapy unit to palliate KS. After living and working at the RDTC it is easier to understand the slowness of Tanzanians to do the difficult things that will halt the spread of HIV. Many of the solutions for halting the progression of HIV conflict with ancient customs that have permitted these people to flourish over the last 100,000 years. Their slowness to change reminded me that American people are equally intransigent about their health. Just a few examples of western intransigence to change are the use of cigarettes and illicit drugs, obesity, and lack of exercise.

It is puzzling to learn that albinism is 10 times more common (about 1:1800 births) on the entire African continent than in the western countries (about 1:18,000). Oculocutaneous albinism (OCA) has three known genetic forms. OCA1 is caused by abnormalities of the tyrosinase enzyme, the so called western albinism. It is uncommon in Africa. OCA2 is caused by defects in the p gene. (King 1998) The function of the p protein is not known. Mysteriously almost all the albinism in Africa, Central and South America is OCA2. (Spritz 1994; Spritz, Fukai et al. 1995; Stevens, van Beukering et al. 1995) The OCA2 phenotype is distinctive. The people have an slight orange color to their hair. The skin has a similar slight orange hue and is not like the white color of OCA1. (King 1998) Some have lentigines on the sun exposed skin. (Lookingbill 1994; Lookingbill, Lookingbill et al. 1995; Lookingbill, Lookingbill et al. 1995) Studies are on going currently to determine how pigmented lentigines can form in an albino. All patients

with OCA2 have sun damage visible as early as 6 months of age. Actinic keratoses, solar elastosis, atrophy and actinic cheilitis are ubiquitous among the albinos. Skin cancers are common in albinos. It is mysterious that most cancers are squamous cell carcinomas. Only a few are basal cell carcinomas and melanomas are inexplicably rare. Drs. Leppard and Lookingbill started an albino project about 4 years ago. (Lookingbill 1994; Lookingbill, Lookingbill et al. 1995; Lookingbill, Lookingbill et al. 1995) Its goal was to prevent the development of cancers in albino patients and to change the prevailing customs of ostracizing albinos from local societies. I had the privilege of accompanying the team to surrounding villages hidden in the mountains to assist in this project. Patients are followed carefully with standardized data collection forms. Each is given gratis a broad brim hat, sun screens and children are given stockings and long sleeved clothes to protect them from the sun. Dr. Leppard and others have prepared a booklet translated into Kiswahili that explains albinism to the patients and their families. The program is a social success and will be a biological success.

Probably the most exciting times were flying off with "The Flying Doctors" into the hinterlands. There are dozens of hospitals staffed and supported by missionaries from western countries. These are located in isolated places not readily accessible by car or bus. Roads often are impassable except by walking. Small planes that can take off and land on the plains of Africa make these hospitals accessible to the outside world. Each month the hospitals inform by radio a central station in Nairobi of their needs for consultants. Dermatologists are desired often. I went to Nzega and to Musoma. The small plane capable of carrying 4-5 doctors and the pilot leave on a Tuesday morning. One doctor is dropped off at a different hospital. Landing on the plains is interesting. There are no runways. The pilot uses a global positioning system to navigate. After several hours the plane reaches the first hospital. The plane buzzes the field and the hospital. That warns the animals and people to get off the landing strip and the informs the hospital staff to send a car to come to the "airport". The hospitals are rather modern and nicely appointed. The medical care is first rate considering the limited resources and remoteness of the mission. Most of the doctors are AMO's with a few doctors with the M.D. degree. Appendectomies, C sections and other routine surgery is done by the AMO.

The visiting consultant stays until Friday. Patients line up outside the door until they are examined. People walk to the clinic, trips that take hours or even a day to two. No one has an assigned appointment. Staffing these clinics is hard work. On some days we saw over 100 patients. We stopped only for tea. There is just one room, poorly lit with just a desk and a small window for light and air. The window is open and those waiting to see the doctor gaze in to watch. There are so few medications. One day we decided to take a biopsy from 4 of 100 patients we had treated. After the clinic was done we spent an hour searching for 4 bottles that had caps in which to put the tissue and formalin. We had just one punch, forceps and scissors. After a biopsy, the instruments are washed and sterilized, a process that takes 30-40 minutes. The next biopsy is obtained and the process repeated. The tissue is taken back to the KCMC where it is processed and evaluated. Three or four weeks later the result is mailed to the hospital. Obviously biopsies are not done to assist the doctor in making a clinical decision. Despite the limitations, the appreciation that the doctors and people have for the consultant, the honor they bestow on him for coming makes worth the minor inconveniences.

Working on the wards at the KCMC hospital is equally exciting. We all took turns every 2 months for 2 weeks at a time. The dermatology service can have 20 to 40 patients, adults and children. They all have a dermatological disorder. In addition they might have malaria, tuberculosis, AIDS, parasites or even cancers. The dermatologist takes care of all the problems. The students are an enormous help. They get the bloods drawn, biopsies taken and other routine work done. Blood tests are available but unnecessary repetition is not appreciated. Most of the lab work is done by hand. One of my greater challenges was managing a patient with malaria, parasites, generalized psoriasis and severe pancytopenia probably from chloramphenicol ingestion. After 4 weeks of trying to keep him alive, he did survive but I would not have predicted that outcome. One of the more sad outcomes was the death of an 8 year old girl badly burned when her dress caught on fire. The entire staff worked to help her live. Her parents arranged to have her air evacuated to Germany for the best care only to learn that she died upon arrival. Severe, extensive burns in children are common since open fires are the usual way that people cook in their homes.

Living and working in Tanzania was just the greatest experience. The satisfaction from treating a patient who is miserable is great. Teaching a student who will bring relief to thousands of the world's poor is indescribable. What has been accomplished required financial help from the government of Tanzania and from international foundations. But without resourcefulness of the faculty and the ability to get things done, the effects of the money would be a minimal. We will never forget this year, the kindness of the people, the fun, excitement, the thrills just the spectacular beauty of Tan-

zania. We hope to return again, next time for a longer visit if we are so fortunate.

Bibliography

King, R. A. (1998). Albinism. The Pigmentary System: Physiology and Pathophysiology. J. J. Nordlund, R. E. Boissy, V. J. Hearing, R. A. King and O. J. Paul. New York, Oxford University Press**:** 553-574.

Kopf, A., T. J. Ryan, et al. (1996). "International Foundation for Dermatology: The first 8 years." J Amer Acad Dermatol **35**: 252-257.

Kopf, A. W. (1993). "International Foundation for Dermatology. A challenge to meet the dermatologic needs of developing countries." Dermatol Clin **11**(2): 311-4.

Lookingbill, D., G. Lookingbill, et al. (1995). "Actinic lentigines versus skin cancer risk in albinos in northern Tanzania." J Amer Acad Dermatol **33**: 299-300.

Lookingbill, D., G. L. Lookingbill, et al. (1995). "Actinic damage and skin cancer in albinos in northern Tanzania: Finding in 164 patients enrolled in an outreach skin care program." J Amer Acad Dermatol **32**: 653-658.

Lookingbill, D. P. (1994). "A 6-month experience at the Regional Dermatology Training Centre in east Africa [see comments]." Arch Dermatol **130**(9): 1172-6.

Ryan, T. (1996). "The African Abino." Radiological Protection Bulletin **183**: 34-37.

Ryan, T. J. (1990). "A fresh look at the management of skin diseases in the tropics." Int J Dermatol **29**(6): 413-5.

Samitz, M. H. (1980). "Dermatology in Tanzania. Problems and solutions." Int J Dermatol **19**(2): 102-6.

Samitz, M. H. and O. Canizares (1981). "Foundation for International Dermatologic Education: a model for education assistance for developing countries." Int J Dermatol **20**(10): 651-2.

Spritz, R. A. (1994). "Molecular genetics of oculocutaneous albinism. [Review]." Human Molecular Genetics: 1469-75.

Spritz, R. A., K. Fukai, et al. (1995). "Frequent intragenic deletion of the P gene in Tanzanian patients with type II oculocutaneous albinism (OCA2)." American Journal of Human Genetics **56**(6): 1320-3.

Stevens, G., J. van Beukering, et al. (1995). "An intragenic deletion of the P gene is the common mutation causing tyrosinase-positive oculocutaneous albinism in southern African Negroids." American Journal of Human Genetics **56**(3): 586-91.

This section of the PASPCR Newsletter, 'and now for the rest of the story' is an opportunity for members of the PASPCR research community to find out some of the background information and detainls oncertain research acrivitiesthat usually do not make it into the publications.

If you wish to know how a particular line of investigation got started, or know of a story that would be interesting to readers of the PASPCR Newsletter, please email me at bill@lenti.med.umn.edu, and I will try to get **the rest of the story**.

Cutaneous melanoma at the beginning of the new millenium

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The past two decades have witnessed an unprecedented progress in our understanding of melanoma biology — both at the cellular and molecular level. For several areas of cancer research, the melanoma research community has been the frontrunner when establishing new biological paradigms. We now know that all major pathways of tumorigenesis and regulatory circuits, programs and networks ("gatekeepers", "caretakers" and "landscapers") suffer deregulation in melanoma, albeit through different mechano-molecular (intra- versus epigenetic, structural versus functional) strategies, at various frequency and variable order. Some of them may be redundant, some complementary, and some mutually exclusive. What's more, the pace of molecular cancer research is even likely to accelerate, with new scientific avenues lying ahead. Complex, compelling revelations that push the intellectual borders of current biological paradigms to its limits are anticipated.

Recently, powerful models have been emerging, such as artificial skin reconstructs and orthotopic skin grafts as well as adeno- or retrovirus-based transfection of cells to overexpress or downregulate specific genes, all of which will allow us to dissect more accurately these molecular pathways and cellular events leading to melanoma. High throughput technology such as cDNA-microarray chips and the rapidly emerging field of proteomics will allow us to faster and more efficiently analyse large quantities of samples for biochemical alterations and thus be a "quantum leap" towards a molecular pathology and epidemiology. Biological paradigm shifts regarding the role of the tumor microenvironment and tissue homeostasis as well as emerging new fields such as stem cell biology are likely to fundamentally alter our thinking about melanoma. Biological events are now beginning to be understood in terms of specific molecules affecting the surrounding micoenviroenment, cell–cell contact, melanoma cell-stroma crosstalk, cell adhesion and migration.

For instance, it is now becoming increasingly clear that fibroblast or endothelial cell recruitment and sub-

version for the benefit of the melanoma cell is a dynamic and intricate process. It is also apparent that bone marrow stroma-derived "mesenchymal" stem cells exhibit an hitherto under-appreciated plasticity and play important roles in various physiological and pathological scenarios; especially their contributions to neoplasia are coming into focus. These observations may have profound repercussions on the future treatment of invasive and metastasizing melanoma. Consequently, it is even conceivable that the stroma may be targeted for melanoma therapy ("stromal therapy"). Another case in point: since apoptotic programs can experimentally be manipulated to produce massive changes in cell death, the genes and proteins controlling apoptosis are attractive, yet still speculative drug targets. However, voluminous evidence suggests that such strategies are feasible. Genetically, biochemically, histopathologically and clinically, cutaneous melanoma is a highly heterogeneous neoplasia. Melanoma can be seen as a spectrum of different etiopathological entities and we believe that it will be classified according to the underlying causative molecular event(s), as it is already possible for hematologic malignancies. We now understand that the melanocortin receptor 1 (MC1R) is a genetic link to melanoma and non-melanoma skin cancer; and it is genetic assessment, not skin color, that is the best indicator of skin cancer risk. The exact biological role of UV-light during melanomagenesis is coming into focus and can be experimentally reproduced. Additionally, "master" genes or switches, such as HOX genes, AP-2, MITF have been identified that sit on top of regulatory pyramids and regulate whole batteries of crucial downstream targets.

And yet, these exciting and promising achievements notwithstanding, there is still an enormous deficit in translating these findings into more effective therapeutic strategies; after all, metastatic melanoma unfortunately still remains a fatal disease. This notion becomes especially painful when measured in "lost years", as melanoma affects more and more younger individuals. The benefits of current adjuvant therapy, such as interferon-alpha, and standard chemotherapy for metastatic disease (e.g. dacarbazine), have to be viewed sceptically when balancing efficacy (disease-free and overall survival) and therapy-related morbidity.

What is to be done?

Despite the aforementioned outstanding progress, major weaknesses remain, especially when melanoma is compared to other types of cancer. The melanoma research community has fallen behind, chiefly because it has remained comparatively small. Of the approximately $ 50 million support from the National Cancer Institute (NCI) per year for melanoma research in the US, a major proportion is directed towards a few clinical studies. The melanoma research community does not have major advocacy groups that could raise public awareness and support.

Only a small number of collaborative groups exist in basic melanoma research worldwide, and they often lack people, tools and infrastructure to take advantage of new biomedical discoveries in the extremely dynamic environment of molecular cancer research. The large European melanoma research community, for example, has a very strong clinical infrastructure, but few centers conduct interdisciplinary or translational research. In the US, clinical care of patients with pigmented lesions is often scattered among different departments, such ad dermatology, surgery, pathology and medical oncology. The number of laboratories in dermatology departments conducting pigment cell research has remained stable at best. There is an increasing shortage of dermatologists interested in pigmented lesions and trained to bridge clinical and experimental research. Thus, more investigators have to be attracted to the field and sufficiently supported intellectually and financially, especially in the beginning of their academic career — the Achilles heel for most young investigators. All of the above should help us to better dissect and understand intracellular molecular signalling circuits and heterotypic cell-cell interactions in melanoma — and ultimatley to identify new molecular targets for more rational therapeutic strategies.

For many, the relatively slow progress in melanoma research and therapy has been most disappointing. Progress has been held back not only by the fact that the biological and clinical terrain we have negotiated is far more intricate than one could have imagined. Yet, although there is much more to invest and learn, we anticipate that, in the near future, this information will produce new, rational strategies to exploit melanoma pathobiology for prophylactic, diagnostic and therapeutic benefit. It is up to all of us to determine the when and where!

Positions - Wanted and Available

Postings for **Positions Available** will be open to all individuals and institutions so long as the position is related to pigment cell research. Postings for **Positions Wanted** will be open only to members of the PanAmerican Society for Pigment Cell Research or its sister societies (JSPCR and ESPCR). Send postings to Bill Oetting at bill@lenti.med.umn.edu. Please provide an expiration date for any submitted postings. Final decisions will be made by the Publications Committee of the PASPCR.

Postdoctoral Position

Polarized Kit-ligand expression in the epidermis: Its role in human melanocyte homeostasis

A postdoctoral position (fully funded for the first year with the possibility of a 2 year extension) is immediately available in the Department of Pathology, Centre Medical Universitaire at the University of Geneva, Switzerland. The project is supervised by Dr. Bernhard Wehrle-Haller and Prof. Beat Imhof and is within the frame of a collaboration between the University of Geneva and Industry.

The aim of this project is to understand the role of kit-ligand in melanocyte homeostasis in the adult epidermis and how manipulation of kit-ligand expression or localization in keratinocytes affect melanocyte behavior. The project will employ cell-biological, pharmaceutical, biochemical as well transgenic approaches (mouse) to develop methods to modify Kit-ligand localization (polarity and cell surface expression) in vivo and to study melanocyte behavior in response to such altered Kit-ligand presentation. For references and rational see Wehrle-Haller and Imhof (2001, J. Biol. Chem. 276, 12667-74) and Grichnik et al., (1998, J. Invest. Dermatol. 111, 233-38).

The Centre Medical Universitaire provides a stimulatory research environment located within the City of Geneva. Research in the department is centered around problems of autoimmunity, wound healing, inflammation, cell-cell junctions and cell migration. Geneva, located at the lake of Geneva in close proximity to the French Alps, provides a rich multicultural environment facilitating social integration.

Interested candidates preferably having experience in one or more of the aforementioned domains should send their CV (e.g. e-mail) including names and contacting information of two references to:

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Postdoctoral Research Position

A postdoctoral position is available immediately to study the transcriptional co-repressor and co-activator activities of the oncogenic protein Ski in human melanomas (PNAS (USA) 97:5924-5929, 2000). Seeking individuals with experience in EMSA, *in vitro* transcription-translation, site-directed mutagenesis and yeast two-hybrid screening. Interested individuals should send inquiries and applications (including CV, a brief description of past experience and future research interests, and the name of three references) to:

Estela E. Medrano, Ph.D.
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Baylor College of Medicine
One Baylor Plaza N-803.01
Houston, TX 77030

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Research Associate/Post Doctoral Fellow Position Available

Position available for either an entry level postdoctoral fellow or a more senior research associate to study the molecular and cellular biology of the melanocyte in general and the pathophysiology of vitiligo in specific. The research project will focus globally on the role of survival factors and apoptotic regulators on the viability of melanocytes in the skin and in culture. In addition, the project will focus on the genetic and cellular susceptibility of melanocytes from patients with vitiligo to under apoptosis in response to various stimuli. Postdoctoral fellow candidate should have experience with routine molecular and cellular techniques including cell

culturing, site directed mutagenesis, and protein biochemistry. Research Associate candidate should have similar experiences utilizing the melanocyte system. Candidate will become part of an interactive research group focusing of various aspects of pigmentation in the Department of Dermatology and on skin physiology in the Skin Sciences Institute within the University of Cincinnati College of Medicine. Send curriculum vitae and list of three references to:

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Principal Scientist- Clinical Research - Skin Science Research

Unilever employs over 200 scientists at our New Jersey Laboratory who are dedicated to innovative and scientifically rigorous skin research programs. Our world sales exceed $40 billion so our programs have solid financial funding allowing for an innovative and challenging research culture. We currently have a full time opening that provides a unique opportunity to apply your basic science skills to human studies that impact the condition of skin for hundreds of millions people worldwide. We are seeking an expert in pigment biology or photobiology who can advance our knowledge and link laboratory research to clinically defined improvements of consumer skin problems. As a member of our skin research team, you will have an opportunity to work with other scientific experts in many fields including cell biology, biochemistry, measurement science and physical chemistry. You will also be encouraged to establish and maintain close ties to research in academic and government research communities.

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Postdoctoral Fellows - Cancer and Developmental Biology - Two NIH-funded positions are available for fellows interested in studying the Hedgehog signaling pathway in development and disease using skin as a model system. One project centers on defining the function of the Hedgehog pathway during skin appendage morphogenesis (Dev. Biol. 205: 1-9, 1999); a second project focuses on understanding how deregulated activation of this pathway gives rise to basal cell carcinomas (Nature Genet. 24: 216-7, 2000). Applicants should have a solid background in molecular and cell biology, with experience in transgenic animal models desirable but not required. Interested individuals should send a CV, letter of interest, and names of three references to: Dr. Andrzej Dlugosz, University of Michigan, Department of Dermatology and Comprehensive Cancer Center, 3310 CCGC, Box 0932, 1500 East Medical Center Drive, Ann Arbor, MI 48109-0932 Email: dlugosza@umich.edu. The University of Michigan is an Equal Opportunity Employer.

Postdoctoral Research Associate - Position available to study the biology of human inherited disorders of pigmentation using gene transfer technology. The successful applicant will have a Ph.D. and/or M.D. with experience in cell biology and molecular biology. Experience in gene transfer/genome manipulation is preferred. Please send curriculum vitae along with the names of three references to Dr. Richard King, Division of Genetics, Department of Medicine, Box 485 Mayo, 420 Delaware St. S.E., University of Minnesota, Minneapolis, MN 55455. Equal Opportunity Employer.

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Bibliography:

The Bibliography published in this issue covers the period December, 2001 through February, 2002. If you notice a paper that was not detected by this search that should be included, please send it to us and we will include it in the next issue. By its very nature, assignment of a reference to a particular category is arbitrary and we urge you to read through all categories to make sure you don't miss any pertinent to your field.

MELANINS, MELANOGENS & MELANOGENESIS

Danielsen EH, Smith DF, Andersen F, Gee AD, Bender D, Hansen SB, Hermansen F, Ostergaard L, Cumming P, Gjedde A: FDOPA metabolism in the adult porcine brain: influence of tracer circulation time and VOI selection on estimates of striatal DOPA decarboxylation. J NEUROSCI METH 111:157-168 (2001).

Fang JM, Han Q, Johnson JK, Christensen BM, Li JY: Functional expression and characterization of Aedes aegypti dopachrome conversion enzyme. BIOCHEM BIOPHYS RES COMMUN 290:287-293 (2002).

Gallone A, Guida G, Maida I, Cicero R: Spleen and liver pigmented macrophages of Rana esculenta L. - A new melanogenic system? PIGM CELL RES 15:32-40 (2002).

Geisert EE, Abel HJ, Fan LY, Geisert GR: Retinal pigment epithelium of the rat express CD81, the target of the anti-proliferative antibody (TAPA). INVEST OPHTHALMOL VISUAL SCI 43:274-280 (2002).

Gorhan C, Soto-Ares G, Ruchoux MM, Blond S, Pruvo JP: Melanotic neuroectodermal tumour of the pineal region. NEURORADIOLOGY 43:944-947 (2001).

Hoegerle S, Nitzsche E, Altehoefer C, Ghanem N, Manz T, Brink I, Reincke M, Moser E, Neumann HPH: Pheochromocytomas: Detection with F-18 DOPA whole-body PET - Initial results. RADIOLOGY 222:507-512 (2002).

Hung YC, Sava VM, Juang CL, Yeh TC, Shen WC, Huang GWS: Gastrointestinal enhancement of MRI with melanin derived from tea leaves (Thea sinensis Linn.). J ETHNOPHARMACOL 79:75-79 (2002).

Iwakura M, Kondoh H, Hiratsuka J, Ehara K, Tamaki N, Mishima Y: Effect of boron neutron capture therapy for melanotic and amelanotic melanoma transplanted into mouse brain. PIGM CELL RES 15:67-75 (2002).

Kato M, Takeda K, Kawamoto Y, Tsuzuki T, Dai Y, Nakayama S, Toriyama K, Tamada Y, Takahashi M, Nakashima I: RET tyrosine kinase enhances hair growth in association with promotion of melanogenesis. ONCOGENE 20:7536-7541 (2001).

Land EJ, Ramsden CA, Riley PA: Pulse radiolysis studies of ortho-quinone chemistry relevant to melanogenesis. J PHOTOCHEM PHOTOBIOL B BIOL 64:123-135 (2001).

McFadden DC, Casadevall A: Capsule and melanin synthesis in Cryptococcus neoformans. MED MYCOL 39:19-30 (2001).

Rosas AL, MacGill RS, Nosanchuk JD, Kozel TR, Casadevall A: Activation of the alternative complement pathway by fungal melanins. CLIN DIAGN LAB IMMUNOL 9:144-148 (2002).

Sardar DK, Mayo ML, Glickman RD: Optical characterization of melanin. J BIOMED OPT 6:404-411 (2001).

Sato S, Yamamoto H: Development of pigment cells in the brain of ascidian tadpole larvae: Insights into the origins of vertebrate pigment cells. PIGM CELL RES 14:428-436 (2001).

Saxena D, Ben Dov E, Manasherob R, Barak Z, Boussiba S, Zaritsky A: A UV tolerant mutant of Bacillus thuringiensis subsp kurstaki producing melanin. CURR MICROBIOL 44:25-30 (2002).

Sugumaran H: Comparative biochemistry of eumelanogenesis and the protective roles of phenoloxidase and melanin in insects. PIGM CELL RES 15:2-9 (2002).

Suzuki I, Kato T, Motokawa T, Tomita Y, Nakamura E, Katagari T: Increase of pro-opiomelanocortin mRNA prior to tyrosinase, tyrosinase-related protein 1, dopachrome tautomerase, Pmel-17/gp100, and P-protein mRNA in human skin after ultraviolet B irradiation. J INVEST DERMATOL 118:73-78 (2002).

Testorf MF, Kronstrand R, Svensson SPS, Lundström I, Ahlner J: Characterization of [H-3]flunitrazepam binding to melanin. ANAL BIOCHEM 298:259-264 (2001).

Zanetti R, Prota G, Napolitano A, Martinez C, Sancho-Garnier H, Osterlind A, Sacerdote C, Rosso S: Development of an integrated method of skin phenotype measurement using the melanins. MELANOMA RES 11:551-557 (2001).

Zhao SL, Overbeek P: Regulation of choroid development by the retinal pigment epithelium. MOL VIS 7:277-282 (2001).

Zonios G, Bykowski J, Kollias N: Skin melanin, hemoglobin, and light scattering properties can be quantitatively assessed in vivo using diffuse reflectance spectroscopy. J INVEST DERMATOL 117:1452-1457 (2001).

MELANOCYTES & KERATINOCYTES

Anderson MG, Smith RS, Hawes NL, Zabaleta A, Chang B, Wiggs JL, John SWM: Mutations in genes encoding melanosomal proteins cause pigmentary glaucoma in DBA / 2J mice. NAT GENET 30:81-85 (2002).

Andersson E, Vahlquist A, Rosdahl I: β-carotene uptake and bioconversion to retinol differ between human melanocytes and keratinocytes. NUTR CANCER 39:300-306 (2001).

Au WY, Yeung CK, Chan HH, Lie AK: Generalized vitiligo after lymphocyte infusion for relapsed leukaemia. BRIT J DERMATOL 145:1015-1017 (2001).

Bonci A, Patrizi A: Pigmentary demarcation lines in pregnancy. ARCH DERMATOL 138:127-128 (2002).

Brown DA: Skin pigmentation enhancers. J PHOTOCHEM PHOTOBIOL B BIOL 63:148-161 (2001).

Buchli R, Ndoye A, Arredondo J, Webber RJ, Grando SA: Identification and characterization of muscarinic acetylcholine receptor subtypes expressed in human skin melanocytes. MOL CELL BIOCHEM 228:57-72 (2001).

Carlson JA, Mu XC, Slominski A, Weismann K, Crowson AN, Malfetano J, Prieto VG, Mihm MC: Melanocytic proliferations associated with lichen sclerosus. ARCH DERMATOL 138:77-87 (2002).

Casp CB, She JX, McCormack WT: Genetic association of the Catalase gene (CAT) with vitiligo susceptibility. PIGM CELL RES 15:62-66 (2002).

Chakir M, Chafik A, Gibert P, David JR: Phenotypic plasticity of adult size and pigmentation in Drosophila: thermosensitive periods during development in two sibling species. J THERM BIOL 27:61-70 (2002).

Cramer SF: Speckled lentiginous nevus (nevus spilus): The “roots” of the “melanocytic garden”. ARCH DERMATOL 137:1654-1655 (2001).

D’Amico DJ, Dryja T: A 58-year-old woman with unilateral loss of vision and postmenopausal bleeding - Bilateral, diffuse uveal melanocytic proliferation. Widely metastatic endometrial carcinoma, mixed epithelioid type, with endometrioid, mucinous and undifferentiated patterns. N ENGL J MED 346:189-195 (2002).

Dell’Anna ML, Maresca V, Briganti S, Camera E, Falchi M, Picardo M: Mitochondrial impairment in peripheral blood mononuclear cells during the active phase of vitiligo. J INVEST DERMATOL 117:908-913 (2001).

Ferrara G, Argenziano G, Zgavec B, Bartenjev I, Staibano S, DeRosa G, Soyer HP: “Compound blue nevus”: A reappraisal of “superficial blue nevus with prominent intraepidermal dendritic melanocytes” with emphasis on dermoscopic and histopathologic features. J AMER ACAD DERMATOL 46:85-89 (2002).

Fettes PS, Forsbach-Birk V, Lynch D, Marre R: Overexpresssion of a Legionella pneumophila homologue of the E-coli regulator csrA affects cell size, flagellation, and pigmentation. INT J MED MICROBIOL 291:353-360 (2001).

Fryer JP, Oetting WS, Brott MJ, King RA: Alternative splicing of the tryrosinase gene transcript in normal human melanocytes and lymphocytes. J INVEST DERMATOL 117:1261-1265 (2001).

Gontier E, Cario-André M, Lepreux S, Vergnes P, Bizik J, Surlève-Bazeille JE, Taïeb A: Dermal nevus cells from congenital nevi cannot penetrate the dermis in skin reconstructs. PIGM CELL RES 15:41-48 (2002).

Hedley SJ, Layton C, Heaton M, Chakrabarty KH, Dawson RA, Gawkrodger DJ, MacNeil S: Fibroblasts play a regulatory role in the control of pigmentation in reconstructed human skin from skin types I and II. PIGM CELL RES 15:49-56 (2002).

High WA, Weiss SD: Pigmentation related to amiodarone. N ENGL J MED 345:1464 (2001).

Hofmann-Wellenhof R, Blum A, Wolf IH, Piccolo D, Kerl H, Garbe C, Soyer HP: Dermoscopic classification of atypical melanocytic nevi (Clark nevi). ARCH DERMATOL 137:1575-1580 (2001).

Janssen JM, Monteiro A, Brakefield PM: Correlations between scale structure and pigmentation in butterfly wings. EVOL DEV 3:415-423 (2001).

Kiniwa Y, Fujita T, Akada M, Ito K, Shofuda T, Suzuki Y, Yamamoto A, Saida T, Kawakami Y: Tumor antigens isolated from a patient with vitiligo and T-cell-infiltrated melanoma. CANCER RES 61:7900-7907 (2001).

Kittler H, Binder M: Risks and benefits of sequential imaging of melanocytic skin lesions in patients with multiple atypical nevi. ARCH DERMATOL 137:1590-1595 (2001).

LeGal FA, Avril MF, Bosq J, Lefebvre P, Deschemin JC, Andrieu M, Dore MX, Guillet JG: Direct evidence to support the role of antigen-specific CD8(+) T cells in melanoma-associated vitiligo. J INVEST DERMATOL 117:1464-1470 (2001).

LePoole IC, Sarangarajan R, Zhao Y, Stennett LS, Brown TL, Sheth P, Miki T, Boissy RE: 'VIT1', a novel gene associated with, vitiligo. PIGM CELL RES 14:475-484 (2001).

Lohmann CM, Coit DG, Brady MS, Berwick M, Busam KJ: Sentinel lymph node biopsy in patients with diagnostically controversial spitzoid melanocytic tumors. AMER J SURG PATHOL 26:47-55 (2002).

Mariano TM, Vetrano AM, Gentile SL, Heck DE, Whittemore MS, Guillon CD, Jabin I, Rapp RD, Heindel ND, Laskin JD: Cell-impermeant pyridinium derivatives of psoralens as inhibitors of keratinocyte growth. BIOCHEM PHARMACOL 63:31-39 (2002).

Matsumura Y, Nishigori C, Miyachi Y: Analysis of the p16 gene status of non-familial dysplastic nevus syndrome patients. ARCH DERMATOL RES 293:540-542 (2001).

Meije CB, Hakvoort TBM, Swart GWM, Westerhof W, Lamers W, Das PK: Gene expression patterns in melanocytic cells: candidate markers for early stage and malignant transformation. J PATHOL 196:51-58 (2002).

Menzies SW, Gutenev A, Avramidis M, Batrac A, McCarthy WH: Short-term digital surface microscopic monitoring of atypical or changing melanocytic lesions. ARCH DERMATOL 137:1583-1589 (2001).

Nandini CL, Lindop GB, Gillen D, Hendry A, Oien KA: Iron-induced oesophageal injury and pigmentation. HISTOPATHOLOGY 39:643-645 (2001).

Nilsson HM, Svensson SPS, Sundqvist T: L-NAME-induced dispersion of melanosomes in melanophores activates PKC, MEK and ERK1. PIGM CELL RES 14:450-455 (2001).

Pietra G, Mortarini R, Parmiani G, Anichini A: Phases of apoptosis of melanoma cells, but not of normal melanocytes, differently affect maturation of myeloid dendritic cells. CANCER RES 61:8218-8226 (2001).

Santos AE, Bitondi MMG, Simoes ZLP: Hormone-dependent protein patterns in integument and cuticular pigmentation in Apis mellifera during pharate adult development. J INSECT PHYSIOL 47:1275-1282 (2001).

Schaffer JV, Orlow SJ, Lazova R, Bolognia JL: Speckled lentiginous nevus-classic congenital melanocytic nevus hybrid not the result of "collision". ARCH DERMATOL 137:1655 (2001).

Scott G, Deng A, Rodriguez-Burford C, Seiberg M, Han RJ, Babiarz L, Grizzle W, Bell W, Pentland A: Protease-activated receptor 2, a receptor involved in melanosome transfer, is upregulated in human skin by ultraviolet irradiation. J INVEST DERMATOL 117:1412-1420 (2001).

Smith CN, Lindsay CD, Hambrook JL: An in vitro comparison of the cytotoxicity of sulphur mustard in melanoma and keratinocyte cell lines. HUM EXP TOXICOL 20:483-490 (2001).

Sturm RA, Teasdale RD, Box NF: Human pigmentation genes: identification, structure and consequences of polymorphic variation. GENE 277:49-62 (2001).

Testorf MF, Roback K, Lundström I, Svensson SPS: Volume changes of individual melanosomes measured by scanning force microscopy. PIGM CELL RES 14:445-449 (2001).
Touloukian CE, Leitner WW, Robbins PF, Rosenberg SA, Restifo NP: Mining the melanosome for tumor vaccine targets: P. polypeptide is a novel tumor-associated. CANCER RES 61:8100-8104 (2001).
Tsatmali M, Ancans J, Thody AJ: Melanocyte function and its control by melanocortin peptides. J HISTOCHEM CYTOCHEM 50:125-133 (2002).
Valéry C, Grob JJ, Verrando P: Identification by cDNA microarray technology of genes modulated by artificial ultraviolet radiation in normal human melanocytes: Relation to melanocarcinogenesis. J INVEST DERMATOL 117:1471-1482 (2001).
Velangi SS, Rees JL: Why are scars pale? An immunohistochemical study indicating preservation of melanocyte number and function in surgical scars. ACTA DERMATO VENEREOL 81:326-328 (2001).
Virador VM, Muller J, Wu XF, Abdel-Malek ZA, Yu ZX, Ferrans VJ, Kobayashi N, Wakamatsu K, Ito S, Hammer JA, Hearing VJ: Influence of α-melanocyte-stimulating hormone and of ultraviolet radiation on the transfer of melanosomes to keratinocytes. FASEB J 15:NIL (2001).
Watabe H, Soma Y, Ito M, Kawa Y, Mizoguchi M: All-trans retinoic acid induces differentiation and apoptosis of murine melanocyte precursors with induction of the microphthalmia-associated transcription factor. J INVEST DERMATOL 118:35-42 (2002).
Zhao CY, Snellman E, Jansen CT, Hemminki K: Ultraviolet photoproduct levels in melanocytic nevi and surrounding epidermis in human skin in situ. J INVEST DERMATOL 118:180-184 (2002).

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Agarwala SS, Glaspy J, O'Day SJ, Mitchell M, Gutheil J, Whitman E, Gonzalez R, Hersh E, Feun L, Belt R, Meyskens F, Hellstrand K, Wood D, Kirkwood JM, Gehlsen KR, Naredi P: Results from a randomized phase III study comparing combined treatment with histamine dihydrochloride plus interleukin-2 versus interleukin-2 alone in patients with metastatic melanoma. J CLIN ONCOL 20:125-133 (2002).
Ahammer H, DeVaney TTJ, Tritthart HA: Fractal dimension of K1735 mouse melanoma clones and spheroid invasion in vitro. EUR BIOPHYS J BIOPHYS LETT 30:494-499 (2001).
Albert D, Syed N: Protocol for the examination of specimens from patients with uveal melanoma: a basis for checklists. (vol 125, pg 1177, 2001). ARCH PATHOL LAB MED 125:1536 (2001).
All-Ericsson C, Girnita L, Seregard S, Bartolazzi A, Jager MJ, Larsson O: Insulin-like growth factor-1 receptor in uveal melanoma: A predictor for metastatic disease and a potential therapeutic target. INVEST OPHTHALMOL VISUAL SCI 43:1-8 (2002).
Alvino E, Marra G, Pagani E, Falcinelli S, Pepponi R, Perrera C, Haider R, Castiglia D, Ferranti G, Bonmasser E, Jiricny J, Zambruno G, D'Atri S: High-frequency microsatellite instability is associated with defective DNA mismatch repair in human melanoma. J INVEST DERMATOL 118:79-86 (2002).
Andersen MH, Keikavoussi P, Bröcker EB, Schuler-Thurner B, Jonassen M, Sondergaard I, Straten PT, Becker JC, Kämpgen E: Induction of systemic CTL responses in melanoma patients by dendritic cell vaccination: Cessation of CTL responses is associated with disease progression. INT J CANCER 94:820-824 (2001).
Anikijenko P, Vo LT, Murr ER, Carrasco J, McLaren WJ, Chen QY, Thomas SG, Delaney PM, King RG: In vivo detection of small subsurface melanomas in athymic mice using noninvasive fiber optic confocal imaging. J INVEST DERMATOL 117:1442-1448 (2001).
Apte RS, Niederkorn JY, Mayhew E, Alizadeh H: Angiostatin produced by certain primary uveal melanoma cell lines impedes the development of liver metastases. ARCH OPHTHALMOL 119:1805-1809 (2001).
Bafaloukos D, Gogas H, Georgoulias V, Briassoulis E, Fountzilas G, Samantas E, Kalofonos C, Skarlos D, Karabelis A, Kosmidis P: Temozolomide in combination with docetaxel in patients

with advanced melanoma: A phase II study of the Hellenic Cooperative Oncology Group. J CLIN ONCOL 20:420-425 (2002).

Barasch E: Cardiac metastasis from uveal melanoma. CHEST 120:2115 (2001).

Beck A, Goetsch L, Champion T, Bussat MC, Aubry JP, Klinguer-Hamour C, Haeuw JF, Bonnefoy JY, Corvaïa N: Stability and CTL-activity of P40/ELA melanoma vaccine candidate. BIOLOGICALS 29:293-298 (2001).

Berking C, Takemoto R, Schaider H, Showe L, Satyamoorthy K, Robbins P, Herlyn M: Transforming growth factor-β1 increases survival of human melanoma through stroma remodeling. CANCER RES 61:8306-8316 (2001).

Berthier-Vergnes O, Gaucherand M, Péguet-Navarro J, Plouet J, Pageaux JF, Schmitt D, Staquet MJ: Human melanoma cells inhibit the earliest differentiation steps of human Langerhans cell precursors but failed to affect the functional maturation of epidermal Langerhans cells. BRIT J CANCER 85:1944-1951 (2001).

Bichakjian CK, Schwartz JL, Wang TS, Hall JM, Johnson TM, Biermann JS: Melanoma information on the Internet: Often incomplete - A public health opportunity? J CLIN ONCOL 20:134-141 (2002).

Blanchard TW, Bryant NJ, Mense MG: Balloon cell melanoma in three dogs: a histopathological, immunohistochemical and ultrastructural study. J COMP PATHOL 125:254-261 (2001).

Blum A, Rassner G, Garbe C: Fine needle aspiration in the diagnosis of metastatic melanoma. J AMER ACAD DERMATOL 46:147-148 (2002).

Bosserhoff AK, Buettner R: Expression, function and clinical relevance of MIA (Melanoma Inhibitory Activity). HISTOL HISTOPATHOL 17:289-300 (2002).

Bullock TNJ, Mullins DW, Colella TA, Engelhard VH: Manipulation of avidity to improve effectiveness of adoptively transferred CD8(+) T cells for melanoma immunotherapy in human MHC class I-transgenic mice. J IMMUNOL 167:5824-5831 (2001).

Bush JA, Cheung KJJ, Li G: Curcumin induces apoptosis in human melanoma cells through a Fas receptor/caspase-8 pathway independent of p53. EXP CELL RES 271:305-314 (2001).

Carli P, DeGiorgi V, Giannotti B: Dermoscopy and early diagnosis of melanoma - The light and the dark. ARCH DERMATOL 137:1641-1644 (2001).

Chakraborty AK, Pawelek J, Ikeda Y, Miyoshi E, Kolesnikova N, Funasaka Y, Ichihashi M, Taniguchi N: Fusio hybrids with macrophage and melanoma cells up-regulate N-acetylglucosaminyltransferase V, β1-6 branching, and metastasis. CELL GROWTH DIFFER 12:623-630 (2001).

Chen SC, Bravata DM, Weil E, Olkin I: A comparison of dermatologists' and primary care physicians' accuracy in diagnosing melanoma - A systematic review. ARCH DERMATOL 137:1627-1634 (2001).

Chwirot BW, Chwirot S, Sypniewska N, Michniewicz Z, Redzinski J, Kurzawski G, Ruka W: Fluorescence in situ detection of human cutaneous melanoma: Study of diagnostic parameters of the method. J INVEST DERMATOL 117:1449-1451 (2001).

Chwirot BW, Sypniewska N, Swiatlak J: Diagnostic potential of fluorescence of formalin-fixed paraffin-embedded malignant melanoma and pigmented skin lesions: quantitative study of fluorescence intensity using fluorescence microscope and digital imaging. MELANOMA RES 11:569-576 (2001).

Dabrowska A, Giermasz A, Golab J, Jakóbisiak M: Potentiated antitumor effects of interleukin 12 and interferon alpha against B16F10 melanoma in mice. NEOPLASMA 48:358-361 (2001).

deHullu JA, Hollema H, Hoekstra HJ, Piers DA, Mourits MJE, Aalders JG, vanderZee AGJ: Vulvar melanoma - Is there a role for sentinel lymph node biopsy? CANCER 94:486-491 (2002).

Deichmann M, Polychronidis M, Wacker J, Thome M, Näher H: The protein phosphatase 2A subunit Bη gene is identified to be differentially expressed in malignant melanomas by subtractive suppression hybridization. MELANOMA RES 11:577-585 (2001).

Demunter A, Stas M, Degreef H, DeWolf-Peeters C, vandenOord JJ: Analysis of N- and K-ras mutations in the distinctive tumor progression phases of melanoma. J INVEST DERMATOL 117:1483-1489 (2001).

DeNardo C, Fonsatti E, Sigalotti L, Calabrò L, Colizzi F, Cortini E, Coral S, Altomonte M, Maio M: Recombinant transmembrane CD59 (CD59-TM) confers complement resistance to GPI-anchored protein defective melanoma cells. J CELL PHYSIOL 190:200-206 (2002).

Denkert C, Siegert A, Leclere A, Turzynski A, Hauptmann S: An inhibitor of stress-activated MAP-kinases reduces invasion and MMP-2 expression of malignant melanoma cells. CLIN EXP METASTAS 19:79-85 (2002).

Dietrich PY, deTribolet N: Dendritic cells pulsed with a tumor-specific peptide induce long-lasting immunity and are effective against murine intracerebral melanoma - Comments. NEUROSURGERY 50:164-166 (2002).

Djukanovic D, Hofmann U, Sucker A, Schadendorf D: Melanoma tumour markers S100B and MIA: evaluation of stability in serum and blood upon storage and processing. BRIT J DERMATOL 145:1030-1031 (2001).

Döme B, Somlai B, Ladányi A, Fazekas K, Zöller M, Tímár J: Expression of CD44v3 splice variant is associated with the visceral metastatic phenotype of human melanoma. VIRCHOWS ARCHIV 439:628-635 (2001).

Eggert AO, Becker JC, Ammon M, McLellan AD, Renner G, Merkel A, Bröcker EB, Kämpgen E: Specific peptide-mediated immunity against established melanoma tumors with dendritic cells requires IL-2 and fetal calf serum-free cell culture. EUR J IMMUNOL 32:122-127 (2002).

Ellerhorst JA, Cooksley CD, Grimm EA: Autoimmunity and hypothyroidism in patients with uveal melanoma. MELANOMA RES 11:633-637 (2001).

Fabrizi G, Massi G: Angiomatoid Spitz naevus: a close simulator of regressing malignant melanoma. BRIT J DERMATOL 145:845-846 (2001).

Falus A, Hegyesi H, Lázár-Molnár E, Pós Z, László V, Darvas Z: Paracrine and autocrine interactions in melanoma: histamine is a relevant player in local regulation. TRENDS IMMUNOL 22:648-652 (2001).

Fetsch PA, Steinberg SM, Riker AI, Marincola FM, Abati A: Melanoma antigen expression in serial fine-needle aspiration samples in patients with metastatic malignant melanoma participating in immunotherapy clinical trials - A preliminary look. CANCER CYTOPATHOL 93:409-414 (2001).

Fink-Puches R, Pilarski P, Schmidbauer U, Kerl H, Soyer HP: No evidence for c-erbB-2 overexpression in cutaneous melanoma. ANTICANCER RES 21:2793-2795 (2001).

Flanagan LA, Chou J, Falet H, Neujahr R, Hartwig JH, Stossel TP: Filamin A, the Arp2/3 complex, and the morphology and function of cortical actin filaments in human melanoma cells. J CELL BIOL 155:511-517 (2001).

Florenes VA, Mælandsmo GM, Faye R, Nesland JM, Holm R: Cyclin A expression in superficial spreading malignant melanomas correlates with clinical outcome. J PATHOL 195:530-536 (2001).

Förster R, Ohl L, Henning G: Lessons learned from lymphocytes: CC chemokine receptor-7 involved in lymphogenic metastasis of melanoma. J NAT CANCER INST 93:1588-1589 (2001).

Frahm SO, Schubert C, Parwaresch R, Rudolph P: High proliferative activity may predict early metastasis of thin melanomas. HUM PATHOL 32:1376-1381 (2001).

Franco S, Segura I, Riese HH, Blasco MA: Decreased B16F10 melanoma growth and impaired vascularization in telomerase-deficient mice with critically short telomeres. CANCER RES 62:552-559 (2002).

Giambernardi TA, Sakaguchi AY, Gluhak J, Pavlin D, Troyer DA, Das G, Rodeck U, Klebe RJ: Neutrophil collagenase (MMP-8) is expressed during early development in neural crest cells as well as in adult melanoma cells. MATRIX BIOLOGY 20:577-587 (2001).

Gibbs P, Anderson C, Pearlman N, LaClaire S, Becker M, Gatlin K, O'Driscoll M, Stephens J, Gonzalez R: A phase II study of neoadjuvant biochemotherapy for stage III melanoma. CANCER 94:470-476 (2002).

Goldstein AM, Tucker MA: Genetic epidemiology of cutaneous melanoma - A global perspective. ARCH DERMATOL 137:1493-1496 (2001).

Goto H, Usui M, Ishii I: Efficacy of N-123-isopropyl-p-[I-123]-iodoamphetamine single photon emission computed tomography for the diagnosis of uveal malignant melanoma. AMER J OPHTHALMOL 132:937-939 (2001).

Gradwell E: Small cell melanoma. J CLIN PATHOL 55:78 (2002).

Gutman H, Schachter J, Stopel E, Gutman R, Lahav J: Impaired platelet aggregation in melanoma patients treated with interferon-α-2b adjuvant therapy. CANCER 94:780-785 (2002).

Harland M, Mistry S, Bishop DT, Bishop JAN: A deep intronic mutation in CDKN2A is associated with disease in a subset of melanoma pedigrees. HUM MOL GENET 10:2679-2686 (2001).

Hartleb J, Arndt R: Cysteine and indole derivatives as markers for malignant melanoma. J CHROMATOGR B 764:409-443 (2001).

Håkansson A, Gustafsson B, Krysander L, Hjelmqvist B, Rettrup B, Håkansson L: Biochemotherapy of metastatic malignant melanoma. Predictive value of tumour-infiltrating lymphocytes. BRIT J CANCER 85:1871-1877 (2001).

Heimberger AB, Archer GE, Crotty LE, McLendon RE, Friedman AH, Friedman HS, Bigner DD, Sampson JH: Dendritic cells pulsed with a tumor-specific peptide induce long-lasting immunity and are effective against murine intracerebral melanoma. NEUROSURGERY 50:158-164 (2002).

Hemminki K, Jiang YW: Association of ocular melanoma with breast cancer but not with cutaneous melanoma: Results from the Swedish family-cancer database. INT J CANCER 94:907-909 (2001).

Hersey P: Advances in the non-surgical treatment of melanoma. EXPERT OPIN INVESTIG DRUGS 11:75-85 (2002).

Hoashi T, Kadono T, Kikuchi K, Etoh T, Tamaki K: Differential growth regulation in human melanoma cell lines by TIMP-1 and TIMP-2. BIOCHEM BIOPHYS RES COMMUN 288:371-379 (2001).

Holme SA, Varma S, Chowdhury MMU, Roberts DL: Audit of a melanoma screening day in the UK: clinical results, participant satisfaction and perceived value. BRIT J DERMATOL 145:784-788 (2001).

Hurks HMH, Valter MM, Wilson L, Hilgert I, VandenElsen PJ, Jager MJ: Uveal melanoma: No expression of HLA-G. INVEST OPHTHALMOL VISUAL SCI 42:3081-3084 (2001).

Jang SJ, Soria JC, Wang L, Hassan KA, Morice RC, Walsh GL, Hong WK, Mao L: Activation of melanoma antigen tumor antigens occurs early in lung carcinogenesis. CANCER RES 61:7959-7963 (2001).

Jovic V, Konjevic G, Radulovic S, Jelic S, Spuzic I: Impaired perforin-dependent NK cell cytotoxicity and proliferative activity of peripheral blood T cells is associated with metastatic melanoma. TUMORI 87:324-329 (2001).

Kakuta S, Tagawa Y, Shibata S, Nanno M, Iwakura Y: Inhibition of B16 melanoma experimental metastasis by interferon-η through direct inhibition of cell proliferation and activation of antitumour host mechanisms. IMMUNOLOGY 105:92-100 (2002).

Kang DC, Gopalkrishnan RV, Wu QP, Jankowsky E, Pyle AM, Fisher PB: mda-5: An interferon-inducible putative RNA helicase with double-stranded RNA-dependent ATPase activity and melanoma growth-suppressive properties. PROC NAT ACAD SCI USA 99:637-642 (2002).

Kiratli H, Bilgiç S: Calcification in choroidal melanoma after transpupillary thermotherapy. AMER J OPHTHALMOL 132:939-941 (2001).

Kirkwood JM, Ibrahim J, Manola J: High-dose interferon versus GM2 vaccine in high-risk malignant melanoma - Reply. J CLIN ONCOL 19:4350 (2001).

Kominsky SL, Torres BA, Hobeika AC, Lake FA, Johnson HM: Superantigen enhanced protection against a weak tumor-specific melanoma antigen: Implications for prophylactic vaccination against cancer. INT J CANCER 94:834-841 (2001).

Kramer DL, Chang BD, Chen Y, Diegelman P, Alm K, Black AR, Roninson IB, Porter CW: Polyamine depletion in human melanoma cells leads to G(1) arrest associated with induction of p21(,)(WAF1 / CIP1 / SDI1) changes in the expression of p21-regulated genes, and a senescence-like phenotype. CANCER RES 61:7754-7762 (2001).

Küsters B, Leenders WPJ, Wesseling P, Smits D, Verrijp K, Ruiter DJ, Peters JPW, vanderKogel AJ, deWaal RMW: Vascular endothelial growth factor-A(165) induces progression of melanoma brain metastases without induction of sprouting angiogenesis. CANCER RES 62:341-345 (2002).

Landi MT, Baccarelli A, Calista D, Pesatori A, Fears T, Tucker MA, Landi G: Combined risk factors for melanoma in a Mediterranean population. BRIT J CANCER 85:1304-1310 (2001).

Landi MT, Baccarelli A, Tarone RE, Pesatori A, Tucker MA, Hedayati M, Grossman L: DNA repair, dysplastic nevi, and sunlight sensitivity in the development of cutaneous malignant melanoma. J NAT CANCER INST 94:94-101 (2002).

Larkin M: Completeness of web-based melanoma information questioned. LANCET 359:50 (2002).

Lebedeva IV, Su ZZ, Chang Y, Kitada S, Reed JC, Fisher PB: The cancer growth suppressing gene mda-7 induces apoptosis selectively in human melanoma cells. ONCOGENE 21:708-718 (2002).

Li G, Schaider H, Satyamoorthy K, Hanakawa Y, Hashimoto K, Herlyn M: Downregulation of E-cadherin and Desmoglein 1 by autocrine hepatocyte growth factor during melanoma development. ONCOGENE 20:8125-8135 (2001).

Longo N, Yáñez-Mó M, Mittelbrunn M, delaRosa G, Muñoz ML, Sánchez-Madrid F, Sánchez-Mateos P: Regulatory role of tetraspanin CD9 in tumor-endothelial cell interaction during transendothelial invasion of melanoma cells. BLOOD 98:3717-3726 (2001).

Ma ZY, Khatlani TS, Li L, Sasaki K, Okuda M, Inokuma H, Onishi T: Molecular cloning and expression analysis of feline melanoma antigen (MAGE) obtained from a lymphoma cell line. VET IMMUNOL IMMUNOPATHOL 83:241-252 (2001).

Maeurer MJ, Necker A, Salter RD, Castelli C, Höhn H, Karbach J, Freitag K, Neukirch C, Knuth A, Jäger E: Improved detection of melanoma antigen-specific T cells expressing low or high levels of CD8 by HLA-A2 tetramers presenting a Melan-A / MART-1 peptide analogue. INT J CANCER 97:64-71 (2002).

Makhlouf HR, Ishak KG, Shekar R, Sesterhenn IA, Young DY, Fanburg-Smith JC: Melanoma markers in angiomyolipoma of the liver and kidney - A comparative study. ARCH PATHOL LAB MED 126:49-55 (2002).

Mantelli M, Barile M, Ciotti P, Ghiorzo P, Lantieri F, Pastorino L, Catricalà C, DellaTorre G, Folco U, Grammatico P, Padovani L, Pasini B, Rovini D, Queirolo P, Rainero ML, Santi PL, Sertoli RM, Goldstein AM, Bianchi-Scarrà G: High prevalence of the G101W germline mutation in the CDKNT2A (P16(ink4a)) gene in 62 Italian malignant melanoma families. AMER J MED GENET 107:214-221 (2002).

Martinez JC, Otley CC: The management of melanoma and nonmelanoma skin cancer: A review for the primary care physician. MAYO CLIN PROC 76:1253-1265 (2001).

Mäkitie T, Kivelä T: Cardiac metastasis from uveal melanoma. CHEST 120:2115 (2001).

McArdle L, Rafferty M, Mælandsmo GM, Bergin O, Farr CJ, Dervan PA, O'Loughlin S, Herlyn M, Easty DJ: Protein tyrosine phosphatase genes downregulated in melanoma. J INVEST DERMATOL 117:1255-1260 (2001).

McCormick A, Rennie I: Bilateral breast metastases from choroidal melanoma. AMER J OPHTHALMOL 132:951-952 (2001).

McNulty SE, Tohidian NB, Meyskens FL: RelA, p50 and inhibitor of kappa B alpha are elevated in human metastatic melanoma cells and respond aberrantly to ultraviolet light B. PIGM CELL RES 14:456-465 (2001).

Meadows GG, Zhang H, Ge XK: Specific amino acid deficiency alters the expression of genes in human melanoma and other tumor cell lines. J NUTR 131:3047S-3050S (2001).

Melichar B, Dvorák J, Jandík P, Tousková M, Solichová D, Megancová J, Voboril Z: Intraarterial chemotherapy of malignant melanoma metastatic to the liver. HEPATO GASTROENTEROL 48:1711-1715 (2001).

Meral R, Duranyildiz D, Tas F, Camlica H, Yasasever V, Kurul S, Dalay N: Prognostic significance of melanoma inhibiting activity levels in malignant melanoma. MELANOMA RES 11:627-632 (2001).

Merighi S, Varani K, Gessi S, Cattabriga E, Iannotta V, Ulouglu C, Leung E, Borea PA: Pharmacological and biochemical characterization of adenosine receptors in the human malignant melanoma A375 cell line. BRIT J PHARMACOL 134:1215-1226 (2001).

Metharom P, Ellem KAO, Schmidt C, Wei MQ: Lentiviral vector-mediated tyro sinase-related protein 2 gene transfer to dendritic cells for the therapy of melanoma. HUM GENE THER 12:2203-2213 (2001).

Mihic-Probst D, Zhao JM, Saremaslani P, Baer A, Komminoth P, Heitz PU: Spitzoid malignant melanoma with lymph-node metastasis - Is a copy-number loss on chromosome 6q a marker of malignancy? VIRCHOWS ARCHIV 439:823-826 (2001).

Mocellin S, Fetsch T, Abati T, Phan GQ, Wang J, Provenzano M, Stroncek D, Rosenberg SA, Marincola FM: Laser scanning cytometry evaluation of MART-1, gp100, and HLA-A2 expression in melanoma metastases. J IMMUNOTHER 24:447-458 (2001).

Monteagudo C, Ferrández A, González-Devesa M, Llombart-Bosch A: Psammomatous malignant melanoma arising in an intradermal naevus. HISTOPATHOLOGY 39:493-497 (2001).

Nakamura K, Yoshikawa N, Yamaguchi Y, Kagota S, Shinozuka K, Kunitomo M: Characterization of mouse melanoma cell lines by their mortal malignancy using an experimental metastatic model. LIFE SCI 70:791-798 (2002).

Nakaya K, Mizuno R, Ohhashi T: B16-BL6 melanoma cells release inhibitory factor(s) of active pump activity in isolated lymph vessels. AMER J PHYSIOL CELL PHYSIOL 281:C1812-C1818 (2001).

Neale MH, Myatt NE, Khoury GG, Weaver P, Lamont A, Hungerford JL, Kurbacher CM, Hall P, Corrie PG, Cree IA: Comparison of the ex vivo chemosensitivity of uveal and cutaneous melanoma. MELANOMA RES 11:601-609 (2001).

Nieboer P, Mulder NH, vanderGraaf WTA, Willemse PHB, Hospers GAP: Dacarbazine DTIC and carboplatin as an outpatient treatment for disseminated malignant melanoma. ANTICANCER RES 21:3115-3116 (2001).

Nikkola J, Vihinen P, Vlaykova T, Hahka-Kemppinen M, Kähäri VM, Pyrhönen S: High expression levels of collagenase-1 and stromelysin-1 correlate with shorter disease-free survival in human metastatic melanoma. INT J CANCER 97:432-438 (2002).

Obrador E, Carretero J, Ortega A, Medina I, Rodilla V, Pellicer JA, Estrela JM: η-Glutamyl transpeptidase overexpression increases metastatic growth of B16 melanoma cells in the mouse liver. HEPATOLOGY 35:74-81 (2002).

Paolicchi A, Lorenzini E, Perego P, Supino R, Zunino F, Comporti M, Pompella A: Extra-cellular thiol metabolism in clones of human metastatic melanoma with different gamma-glutamyl transpeptidase expression: Implications for cell response to platinum-based drugs. INT J CANCER 97:740-745 (2002).

Patel KA, Edmondson ND, Talbot F, Parsons MA, Rennie IG, Sisley K: Prediction of prognosis in patients with uveal melanoma using fluorescence in situ hybridisation. BRIT J OPHTHALMOL 85:1440-1444 (2001).

Pennati M, Colella G, Folini M, Citti L, Daidone MG, Zaffaroni N: Ribozyme-mediated attenuation of survivin expression sensitizes human melanoma cells to cisplatin-induced apoptosis. J CLIN INVEST 109:285-286 (2002).

Philip S, Bulbule A, Kundu GC: Osteopontin stimulates tumor growth and activation of promatrix metalloproteinase-2 through nuclear factor- κB-mediated induction of membrane type 1 matrix metalloproteinase in murine melanoma cells. J BIOL CHEM 276:44926-44935 (2001).

Pomyje J, Zivny JH, Stopka T, Simák J, Vanková H, Necas E: Angiopoietin-1, angiopoietin-2 and Tie-2 in tumour and non-tumour tissues during growth of experimental melanoma. MELANOMA RES 11:639-643 (2001).

Pruneri G, Mazzarol G, Manzotti M, Viale G: Monoclonal proliferation of germinal center cells (incipient follicular lymphoma) in an axillary lymph node of a melanoma patient. HUM PATHOL 32:1410-1413 (2001).

Punt CJA, Eggermont AMM: Adjuvant interferon-alpha for melanoma revisited: News from old and new studies. ANN ONCOL 12:1663-1666 (2001).

Ramos-Vara JA, Miller MA, Johnson GC, Turnquist SE, Kreeger JM, Watson CL: Melan A and S100 protein immunohistochemistry in feline melanomas: 48 cases. VET PATHOL 39:127-132 (2002).

Ravaud A, Delaunay M, Chevreau C, Coulon V, Debled M, Bret-Dibat C, Courbon F, Gualde N, Bui N: Granulocyte-macrophage colony-stimulating factor alone or with dacarbazine in metastatic melanoma: a randomized phase II trial. BRIT J CANCER 85:1467-1471 (2001).

Read RW, Green RL, Rao NA: Metastatic adenocarcinoma with rupture through the Bruch membrane simulating a choroidal melanoma. AMER J OPHTHALMOL 132:943-945 (2001).

Recio JA, Merlino G: Hepatocyte growth factor / scatter factor activates proliferation in melanoma cells through p38 MAPK, ATF-2 and cyclin D1. ONCOGENE 21:1000-1008 (2002).

Reed JA, Bales E, Xu WD, Okan NA, Bandyopadhyay D, Medrano EE: Cytoplasmic localization of the oncogenic protein ski in human cutaneous melanomas in vivo: Functional implications for transforming growth factor β signaling. CANCER RES 61:8074-8078 (2001).

Ribas A, Butterfield LH, Amarnani SN, Dissette VB, Kim D, Meng WS, Miranda GA, Wang HJ, McBride WH, Glaspy JA, Economou JS: CD40 cross-linking bypasses the absolute requirement for CD4 T cells during immunization with melanoma antigen gene-modified dendritic cells. CANCER RES 61:8787-8793 (2001).

Rinaldo A, Shaha AR, Patel SG, Ferlito A: Primary mucosal melanoma of the nasal cavity and paranasal sinuses. ACTA OTO LARYNGOL 121:979-982 (2001).

Roberts MS, Wu ZY, Siebert GA, Thompson JF, Smithers BM: Saturable dose-response relationships for melphalan in melanoma treatment by isolated limb infusion in the nude rat. MELANOMA RES 11:611-618 (2001).

Robertson DM, Campbell RJ, Salomao DR: Mushroom-shaped choroidal melanocytoma mimicking malignant melanoma. ARCH OPHTHALMOL 120:82-85 (2002).

Robledo MM, Bartolomé RA, Longo N, Rodríguez-Frade JM, Mellado M, Longo I, vanMuijen GNP, Sánchez-Mateos P, Teixidó J: Expression of functional chemokine receptors CXCR3 and CXCR4 on human melanoma cells. J BIOL CHEM 276:45098-45105 (2001).

Rofstad EK, Graff BA: Thrombospondin-1-mediated metastasis suppression by the primary tumor human melanoma xenografts. J INVEST DERMATOL 117:1042-1049 (2001).

Romanowska-Dixon B, Urbanska K, Elas M, Pajak S, Zygulska-Mach H, Miodonski A: Angiomorphology of the pigmented Bomirski melanoma growing in hamster eye. ANN ANATOMY 183:559-565 (2001).

Ruiter DJ, Spatz A, vandenOord JJ, Cook MG: Microstaging in cutaneous melanoma. J PATHOL 195:525-529 (2001).

Saito Y, Wang ZW, Hagino-Yamagishi K, Civelli O, Kawashima S, Maruyama K: Endogenous melanin-concentrating hormone receptor SLC-1 in human melanoma SK-MEL-37 cells. BIOCHEM BIOPHYS RES COMMUN 289:44-50 (2001).

Salomone B, Ponti R, Gasco MR, Ugazio E, Quaglino P, Osella-Abate S, Bernengo MG: In vitro effects of cholesteryl butyrate solid lipid nanospheres as a butyric acid pro-drug on melanoma cells: Evaluation of antiproliferative activity and apoptosis induction. CLIN EXP METASTAS 18:663-673 (2001).

Schmid-Wendtner MH, Baumert J, Schmidt M, Plewig G, Volkenandt M, Hölzel D: Prognostic index for cutaneous melanoma: an analysis after follow-up of 2715 patients. MELANOMA RES 11:619-626 (2001).

Schmid-Wendtner MH, Baumert J, Wendtner CM, Plewig G, Volkenandt M: Risk of second primary malignancies in patients with cutaneous melanoma. BRIT J DERMATOL 145:981-985 (2001).

Schrayer DP, Kouttab N, Hearing VJ, Wanebo HJ: Synergistic effect of interleukin-2 and a vaccine of irradiated melanoma cells transfected to secrete staphylococcal enterotoxin A. CLIN EXP METASTAS 19:43-53 (2002).

Seliger B, Ritz U, Abele R, Bock M, Tampé R, Sutter G, Drexler I, Huber C, Ferrone S: Immune escape of melanoma: First evidence of structural alterations in two distinct components of the MHC class I antigen processing pathway. CANCER RES 61:8647-8650 (2001).

Shahbazi M, Pravica V, Nasreen N, Fakhoury H, Fryer AA, Strange RC, Hutchinson PE, Osborne JE, Lear JT, Smith AG, Hutchinson IV: Association between functional polymorphism in EGF gene and malignant melanoma. LANCET 359:397-401 (2002).

Shaw H, Thompson J: Predicting sentinel and residual lymph node basin disease after sentinel lymph node biopsy for melanoma. CANCER 94:283-284 (2002).

Shields CL, Shields JA: Bilateral breast metastases from choroidal melanoma - Author reply. AMER J OPHTHALMOL 132:952 (2001).

Shields CL, Shields JA, Perez N, Singh AD, Cater J: Primary transpupillary thermotherapy for small choroidal melanoma in 256 consecutive cases - Outcomes and limitations. OPHTHALMOLOGY 109:225-234 (2002).

Sigalotti L, Coral S, Nardi G, Spessotto A, Cortini E, Cattarossi I, Colizzi F, Altomonte M, Maio M: Promoter methylation controls the expression of MAGE2, 3 and 4 genes in human cutaneous melanoma. J IMMUNOTHER 25:16-26 (2002).

Singh AD, Shields JA, Shields CL, Sato T: Choroidal melanoma metastatic to the contralateral choroid. AMER J OPHTHALMOL 132:941-943 (2001).

Siskind V, Aitken J, Green A, Martin N: Sun exposure and interaction with family history in risk of melanoma, Queensland, Australia. INT J CANCER 97:90-95 (2002).
Slade N, Galetic I, Kapitanovic S, Pavelic J: The efficacy of retroviral herpes simplex virus thymidine kinase gene transfer and ganciclovir treatment on the inhibition of melanoma growth in vitro and in vivo. ARCH DERMATOL RES 293:484-490 (2001).
Smith CN, Lindsay CD: Kojic acid reduces the cytotoxic effects of sulfur mustard on cultures containing human melanoma cells in vitro. J APPL TOXICOL 21:435-440 (2001).
Smith CN, Lindsay CD: Stimulation of C32 and G361 melanoma cells using oleoyl acetyl glycerol and its effect on sulphur mustard cytotoxicity. HUM EXP TOXICOL 20:418-425 (2001).
Sondak VK, Meltzer PS, Trent JM: Application of molecular cytogenetic techniques in a case study of human cutaneous metastatic melanoma. CANCER GENET CYTOGENET 131:97-103 (2001).
Sotillo R, Garcia JF, Ortega S, Martin J, Dubus P, Barbacid M, Malumbres M: Invasive melanoma in Cdk4-targeted mice. PROC NAT ACAD SCI USA 98:13312-13317 (2001).
Steitz J, Brück J, Lenz J, Knop J, Tüting T: Depletion of CD25(+) CD4(+) T cells and treatment with tyrosinase-related protein 2-transduced dendritic cells enhance the interferon α-induced, CD8(+) T-cell-dependent immune defense of B16 melanoma. CANCER RES 61:8643-8646 (2001).
Stojadinovic A, Allen PJ, Clary BM, Busam KJ, Coit DG: Value of frozen-section analysis of sentinel lymph nodes for primary cutaneous malignant melanoma. ANN SURG 235:92-98 (2002).
Stojkovic R, Radacic M: Cell killing of melanoma B16 in vivo by hyperthermia and cytotoxins. INT J HYPERTHER 18:62-71 (2002).
Sturm RA, Satyamoorthy K, Meier F, Gardiner BB, Smit DJ, Vaidya B, Herlyn M: Osteonectin/SPARC induction by ectopic β(3) integrin in human radial growth phase primary melanoma cells. CANCER RES 62:226-232 (2002).
Tatman D, Mo HB: Volatile isoprenoid constituents of fruits, vegetables and herbs cumulatively suppress the proliferation of murine B16 melanoma and human HL-60 leukemia cells. CANCER LETT 175:129-139 (2002).
Tavares MGM, Sapienza MT, Galeb NA, Belfort FA, Costa RR, Osório CABT, Góes JCS, Endo IS, Soares J, Lewin S, Marone MMS: The use of Tc-99m-phytate for sentinel node mapping in melanoma, breast cancer and vulvar cancer: a study of 100 cases. EUR J NUCL MED 28:1597-1604 (2001).
Thies A, Mangold U, Moll I, Schumacher U: PAS-positive loops and networks as a prognostic indicator in cutaneous malignant melanoma. J PATHOL 195:537-542 (2001).
Thies A, Pfüller U, Schachner M, Horny HP, Moll I, Schumacher U: Binding of mistletoe lectins to cutaneous malignant melanoma: Implications for prognosis and therapy. ANTICANCER RES 21:2883-2887 (2001).
Thurber SE, Khong HT, Kammula US, Rosenberg SA: Identification of endogenous HLA-A2-restricted reactivity against shared melanoma antigens in patients using the quantitative real-time polymerase chain reaction. J IMMUNOTHER 25:63-71 (2002).
Toso JF, Gill VJ, Hwu P, Marincola FM, Restifo NP, Schwartzentruber DJ, Sherry RM, Topalian SL, Yang JC, Stock F, Freezer LJ, Morton KE, Seipp C, Haworth L, Mavroukakis S, White D, MacDonald S, Mao J, Sznol M, Rosenberg SA: Phase I study of the intravenous administration of attenuated Salmonella typhimurium to patients with metastatic melanoma. J CLIN ONCOL 20:142-152 (2002).
Tsao H, Kwitkiwski K, Sober AJ: A single-institution case series of patients with cutaneous melanoma and non-Hodgkin's lymphoma. J AMER ACAD DERMATOL 46:55-61 (2002).
Tulley P, Butler PEM: Sentinel lymph node biopsy for malignant melanoma. PLAST RECONSTR SURG 108:2169 (2001).
Tunev SS, Wells MG: Cutaneous melanoma in a ferret (Mustela putorius furo). VET PATHOL 39:141-143 (2002).
Uren RF, Thompson JF, Howman-Giles R: Sentinel lymph node biopsy in patients with melanoma and breast cancer. INTERN MED J 31:547-553 (2001).
Vergili A, Corazza M: Guess what! Metastatic malignant melanoma of the leg from a warty acral amelanotic malignant melanoma. EUROPEAN J DERMATOLOGY 11:591-592 (2001).

Viganò P, Somigliana E, DiBlasio AM, Cozzolino S, Candiani M, Vignali M: Suppression of natural killer cell function and production of soluble ICAM-1: Endometrial stroma versus melanoma. AMER J REPROD IMMUNOL 46:342-348 (2001).

Vogt T, McClelland M, Jung B, Popova S, Bogenrieder T, Becker B, Rumpler G, Landthaler M, Stolz W: Progression and NSAID-induced apoptosis in malignant melanomas are independent of cyclooxygenase II. MELANOMA RES 11:587-599 (2001).

Walker GJ, Hayward NK: p16INK4A and p14ARF tumour suppressors in melanoma: lessons from the mouse. LANCET 359:7-8 (2002).

Wang SM, Qi JG, Smith M, Link CJ: Antitumor effects on human melanoma xenografts of an amplicon vector transducing the herpes thymidine kinase gene followed by ganciclovir. CANCER GENE THERAPY 9:1-8 (2002).

Wiley HE, Gonzalez EB, Maki W, Wu MT, Hwang ST: Expression of CC chemokine receptor-7 and regional lymph node metastasis of B16 murine melanoma. J NAT CANCER INST 93:1638-1643 (2001).

Willers J, Urosevic M, Laine E, Geertsen R, Kündig T, Burg G, Dummer R: Decreased intraindividual HLA class I expression is due to reduced transcription in advanced melanoma and does not correlate with HLA-G expression. J INVEST DERMATOL 117:1498-1504 (2001).

Wilson K: High-dose interferon versus GM2 vaccine in high-risk malignant melanoma. J CLIN ONCOL 19:4350 (2001).

Wu TY, Fleischmann WR: Murine B16 melanoma vaccination-induced tumor immunity: Identification of specific immune cells and functions involved. J INTERFERON CYTOKINE RES 21:1117-1127 (2001).

Yakshibaeva YR: Carbohydrate receptor expression on melanoma B16 and MCA sarcoma cell surface and effect of mono- and disaccharides on adhesion and homotypic aggregation of cells in vitro. EXP ONCOL 23:274-277 (2001).

Yamashita T, Tokino T, Tonoki H, Moriuchi T, Jin HY, Omori F, Jimbow K: Induction of apoptosis in melanoma cell lines by p53 and its related proteins. J INVEST DERMATOL 117:914-919 (2001).

Yang JM, Luan J, Yu YC, Li CX, DePinho RA, Chin L, Richmond A: Induction of melanoma in murine macrophage inflammatory protein 2 transgenic mice heterozygous for inhibitor of kinase / alternate reading frame. CANCER RES 61:8150-8157 (2001).

Zendman AJW, vanKraats AA, denHollander AI, Weidle UH, Ruiter DJ, vanMuijen GNP: Characterization of XAGE-1b, a short major transcript of cancer-testis-associated gene XAGE-1, induced in melanoma metastasis. INT J CANCER 97:195-204 (2002).

Zhang H, Rosdahl I: Expression of oneogenes, tumour suppressor, mismatch repair and apoptosis-related genes in primary and metastatic melanoma cells. INT J ONCOL 19:1149-1153 (2001).

Zhang XM, Xu Q: Metastatic melanoma cells escape from immunosurveillance through the novel mechanism of releasing nitric oxide to induce dysfunction of immunocytes. MELANOMA RES 11:559-567 (2001).

MSH, POMC, GROWTH FACTORS & RECEPTORS

Adan RAH, Vink T: Drug target discovery by pharmacogenetics: mutations in the melanocortin system and eating disorders. EUR NEUROPSYCHOPHARMACOL 11:483-490 (2001).

Caldwell HK, Lepri JJ: Disruption of the fifth melanocortin receptor alters the urinary excretion of aggression-modifying pheromones in male house mice. CHEM SENSES 27:91-94 (2002).

Flanagan N, Ray AJ, Todd C, Birch-Machin MA, Rees JL: The relation between melanocortin 1 receptor genotype and experimentally assessed ultraviolet radiation sensitivity. J INVEST DERMATOL 117:1314-1317 (2001).

Ha T, Rees JL: Melanocortin 1 receptor: What's red got to do with it? J AMER ACAD DERMATOL 45:961-964 (2001).

Hoogduijn MJ, McGurk S, Smit NPM, Nibbering PH, Ancans J, vanderLaarse A, Thody AJ: Ligand-dependent activation of the melanocortin 5 receptor: cAMP production and ryanodine receptor-dependent elevations of [Ca2+](i). BIOCHEM BIOPHYS RES COMMUN 290:844-850 (2002).

Jiménez-Cervantes C, Germer S, González P, Sánchez J, Sánchez CO, García-Borrón JC: Thr40 and Met122 are new partial loss-of-function natural mutations of the human melanocortin 1 receptor. FEBS LETT 508:44-48 (2001).

Jonsson L, Skarphedinsson JO, Skuladottir GV, Atlason PT, Eiriksdottir VH, Franzson L, Schiöth HB: Melanocortin receptor agonist transiently increases oxygen consumption in rats. NEUROREPORT 12:3703-3708 (2001).

Ju SK, Park JH, Cho EW, You KH, Kim KL: Specific detection of cell surface-displayed human melanocortin 4 receptors with antibodies generated in mice. MOL CELLS 12:321-328 (2001).

Lutterschmidt DI, Lutterschmidt WI, Ford NB, Hutchison VH: Behavioral thermoregulation and the role of melatonin in a nocturnal snake. HORMONE BEHAV 41:41-50 (2002).

McNulty JC, Thompson DA, Bolin KA, Wilken J, Barsh GS, Millhauser GL: High-resolution NMR structure of the chemically-synthesized melanocortin receptor binding domain AGRP(87-132) of the agouti-related protein. BIOCHEMISTRY USA 40:15520-15527 (2001).

Rahmouni K, Haynes WG: Leptin signaling pathways in the central nervous system: interactions between neuropeptide Y and melanocortins. BIOESSAYS 23:1095-1099 (2001).

Takeuchi S, Haneda M, Teshigawara K, Takahashi S: Identification of a novel GH isoform: A possible link between GH and melanocortin systems in the developing chicken eye. ENDOCRINOLOGY 142:5158-5166 (2001).

Vemulapalli R, Kurowski S, Salisbury B, Parker E, Davis H: Activation of central melanocortin receptors by MT-II increases cavernosal pressure in rabbits by the neuronal release of NO. BRIT J PHARMACOL 134:1705-1710 (2001).

Vrinten DH, Kalkman CJ, Adan RAH, Gispen WH: Neuropathic pain: a possible role for the melanocortin system? EUR J PHARMACOL 429:61-69 (2001).

Vrinten DH, Adan RAH, Groen GJ, Gispen WH: Chronic blockade of melanocortin receptors alleviates allodynia in rats with neuropathic pain. ANESTH ANALG 93:1572-1577 (2001).

Wiechmann AF, Wirsig-Wiechmann CR: Melatonin receptor mRNA and protein expression in Xenopus laevis nonpigmented ciliary epithelial cells. EXP EYE RES 73:617-623 (2001).

DEVELOPMENTAL BIOLOGY

Attanoos RL, Webb R, Dojcinov SD, Gibbs AR: Malignant epithelioid mesothelioma: anti-mesothelial marker expression correlates with histological pattern. HISTOPATHOLOGY 39:584-588 (2001).

Baldi A, Santini D, Battista T, Dragonetti E, Ferranti G, Petitti T, Groeger AM, Angelini A, Rossiello R, Baldi F, Natali PG, Paggi MG: Expression of AP-2 transcription factor and of its downstream target genes c-kit, E-cadherin and p21 in human cutaneous melanoma. J CELL BIOCHEM 83:364-372 (2001).

Bondurand N, Girard M, Pingault V, Lemort N, Dubourg O, Goossens M: Human Connexin 32, a gap junction protein altered in the X-linked form of Charcot-Marie-Tooth disease, is directly regulated by the transcription factor SOX10. HUM MOL GENET 10:2783-2795 (2001).

Dutton KA, Pauliny A, Lopes SS, Elworthy S, Carney TJ, Rauch J, Geisler R, Haffter P, Kelsh RN: Zebrafish colourless encodes sox10 and specifies non-ectomesenchymal neural crest fates. DEVELOPMENT 128:4113-4125 (2001).

Fullaondo A, Vicario A, Aguirre A, Barrena I, Salazar A: Quantitative analysis of two-dimensional gel electrophoresis protein patterns: a method for studying genetic relationships among Globodera pallida populations. HEREDITY 87:266-272 (2001).

Gilmore ES, Stutts MJ, Milgram SL: Src family kinases mediate epithelial Na+ channel inhibition by endothelin. J BIOL CHEM 276:42610-42617 (2001).

Hagge-Greenberg A, Snow P, O'Brien TP: Establishing an ENU mutagenesis screen for the piebald region of mouse Chromosome 14. MAMM GENOME 12:938-941 (2001).

Iida T, Spaide RF, Haas A, Yannuzzi LA, Jampol LM, Lesser RL: Leopard-spot pattern of yellowish subretinal deposits in central serous chorioretinopathy. ARCH OPHTHALMOL 120:37-42 (2002).

Kaufmann D, Tinschert S, Algermissen B: Is the distribution of dermal neurofibromas in neurofibromatosis type 1 (NF1) related to the pattern of the skin surface temperature? EUROPEAN J DERMATOLOGY 11:521-526 (2001).

Manaka I, Kadono S, Kawashima M, Kobayashi T, Imokawa G: The mechanism of hyperpigmentation in seborrhoeic keratosis involves the high expression of endothelin-converting enzyme-1α and TNF-α, which stimulate secretion of endothelin 1. BRIT J DERMATOL 145:895-903 (2001).

Martí DA, Bidau CJ: Synapsis in Robertsonian heterozygotes and homozygotes of Dichroplus pratensis (Melanoplinae, Acrididae) and its relationship with chiasma patterns. HEREDITAS 134:245-254 (2001).

McVean GAT: What do patterns of genetic variability reveal about mitochondrial recombination? HEREDITY 87:613-620 (2001).

Rokas A, Atkinson RJ, Brown GS, West SA, Stone GN: Understanding patterns of genetic diversity in the oak gallwasp Biorhiza pallida: demographic history or a Wolbachia selective sweep? HEREDITY 87:294-304 (2001).

Schubert FR, Tremblay P, Mansouri A, Faisst AM, Kammandel B, Lumsden A, Gruss P, Dietrich S: Early mesodermal phenotypes in Splotch suggest a role for Pax3 in the formation of epithelial somites. DEVELOP DYNAM 222:506-521 (2001).

Shaw TJ, Keszthelyi EJ, Tonary AM, Cada M, Vanderhyden BC: Cyclic AMP in ovarian cancer cells both inhibits proliferation and increases c-KIT expression. EXP CELL RES 273:95-106 (2002).

Shi PA, Pomper GJ, Metzger ME, Donahue RE, Leitman SF, Dunbar CE: Assessment of rapid remobilization intervals with G-CSF and SCF in murine and rhesus macaque models. TRANSFUSION 41:1438-1444 (2001).

Sonnenberg-Riethmacher E, Miehe M, Stolt CC, Goerich DE, Wegner M, Riethmacher D: Development and degeneration of dorsal root ganglia in the absence of the HMG-domain transcription factor Sox10. MECH DEVELOP 109:253-265 (2001).

Stolt CC, Rehberg S, Ader M, Lommes P, Riethmacher D, Schachner M, Bartsch U, Wegner M: Terminal differentiation of myelin-forming oligodendrocytes depends on the transcription factor Sox10. GENE DEVELOP 16:165-170 (2002).

Sugimoto K, Adachi Y, Moriyama K, Qiong W, Nakayama A, Hosono M, Mori KJ: Induction of the expression of SCF in mouse by lethal irradiation. GROWTH FACTORS 19:219-231 (2001).

Tekin M, Bodurtha JN, Nance WE, Pandya A: Waardenburg syndrome type 3 (Klein-Waardenburg syndrome) segregating with a heterozygous deletion in box domain of PAX3: a simple variant or a true syndrome. CLIN GENET 60:301-304 (2001).

Vigodner M, Lewin LM, Shochat L, Golan R: Spermatogenesis in the golden hamster: The role of c-kit. MOL REPROD DEV 60:562-568 (2001).

Wulff K, Dedek A, Siegmund R: Circadian and ultradian time patterns in human behavior: Part 2: Social synchronisation during the development of the infant's diurnal activity-rest pattern. BIOL RHYTHM RES 32:529-546 (2001).

DIFFERENTIATION

Berson JF, Harper DC, Tenza D, Raposo G, Marks MS: Pmel17 initiates premelanosome morphogenesis within multivesicular bodies. MOL BIOL CELL 12:3451-3464 (2001).

Brown AM, Mayfield DK, Volaufova J, Argyropoulos G: The gene structure and minimal promoter of the human agouti related protein. GENE 277:231-238 (2001).

Cohen-Solal KA, Reuhl KR, Ryan KB, Roberts KG, Chen S: Development of cutaneous amelanotic melanoma in the absence of a functional tyrosinase. PIGM CELL RES 14:466-474 (2001).

Correia MLG, Haynes WG, Rahmouni K, Morgan DA, Sivitz WI, Mark AL: The concept of selective leptin resistance - Evidence from agouti yellow obese mice. DIABETES 51:439-442 (2002).

Du JY, Fisher DE: Identification of aim-1 as the underwhite mouse mutant and its transcriptional regulation by MITF. J BIOL CHEM 277:402-406 (2002).

Gupta S, Chaudhuri T, Ganguly DK, Giri AK: Anticlastogenic effects of black tea (World blend) and its two active polyphenols theaflavins and thearubigins in vivo in Swiss albino mice. LIFE SCI 69:2735-2744 (2001).

Henry BA, Rao A, Ikenasio BA, Mountjoy KG, Tilbrook AJ, Clarke IJ: Differential expression of cocaine- and amphetamine-regulated transcript and agouti related-protein in chronically food-restricted sheep. BRAIN RES 918:40-50 (2001).

Ivanova EP, Sawabe T, Alexeeva YV, Lysenko AM, Gorshkova NM, Hayashi K, Zukova NV, Christen R, Mikhailov VV: Pseudoalteromonas issachenkonii sp nov., a bacterium that degrades the thallus of the brown alga Fucus evanescens. INT J SYST EVOL MICROBIOL 52:229-234 (2002).

Kaur J, Hill HZ: Transfection of nonmelanocytic cells with tyrosinase gene constructs for survival studies. ENVIRON MOL MUTAGEN 38:216-222 (2001).

Khlgatian MK, Hadshiew IM, Asawanonda P, Yaar M, Eller MS, Fujita M, Norris DA, Gilchrest BA: Tyrosinase gene expression is regulated by p53. J INVEST DERMATOL 118:126-132 (2002).

Khong HT, Rosenberg SA: Pre-existing immunity to tyrosinase-related protein (TRIP)-2, a new TRP-2 isoform, and the NY-ESO-1 melanoma antigen in a patient with a dramatic response to immunotherapy. J IMMUNOL 168:951-956 (2002).

Kierstead LS, Ranieri E, Olson W, Brusic V, Sidney J, Sette A, Kasamon YL, Slingluff CL, Kirkwood JM, Storkus WJ: gp100/pmel17 and tyrosinase encode multiple epitopes recognized by Th1-type CD4+T cells. BRIT J CANCER 85:1738-1745 (2001).

Knyazev SP, Reissmann M, Wagner HJ, Kurai MV, Samovolov NV: Analysis of the genetic structure of the breeding nucleus of the Russian population of thoroughbred horses by the extension locus molecular DNA typing. RUSS J GENET 37:1161-1164 (2001).

Levy C, Nechushtan H, Razin E: A new role for the STAT3 inhibitor, PIAS3 - A repressor of microphthalmia transcription factor. J BIOL CHEM 277:1962-1966 (2002).

Likhitwitayawuid K, Sritularak B: A new dimeric stilbene with tyrosinase inhibitiory activity from Artocarpus gomezianus. J NAT PROD 64:1457-1459 (2001).

Luscombe CJ, French ME, Liu S, Saxby MF, Jones PW, Fryer AA, Strange RC: Prostate cancer risk: associations with ultraviolet radiation, tyrosinase and melanocortin-1 receptor genotypes. BRIT J CANCER 85:1504-1509 (2001).

Mantel C, Hendrie P, Broxmeyer HE: Steel factor regulates cell cycle asymmetry. STEM CELLS 19:483-491 (2001).

Mechan AO, Moran PM, Elliott JM, Young AMJ, Joseph MH, Green AR: A comparison between Dark Agouti and Sprague-Dawley rats in their behaviour on the elevated plus-maze, open-field apparatus and activity meters, and their response to diazepam. PSYCHOPHARMACOLOGY 159:188-195 (2002).

Moller AP, Mousseau TA: Albinism and phenotype of barn swallows (Hirundo rustica) from Chernobyl. EVOLUTION 55:2097-2104 (2001).

Morii E, Ogihara H, Oboki K, Kataoka TR, Jippo T, Kitamura Y: Effect of MITF on transcription of transmembrane tryptase gene in cultured mast cells of mice. BIOCHEM BIOPHYS RES COMMUN 289:1243-1246 (2001).

Morrison D, Fitzpatrick D, Hanson I, Williamson K, vanHeyningen V, Fleck B, Jones I, Chalmers J, Campbell H: National study of microphthalmia, anophthalmia, and coloboma (MAC) in Scotland: investigation of genetic aetiology. J MED GENET 39:16-22 (2002).

Oetting WS: New insights into ocular albinism type 1 (OA1) mutations and polymorphisms of the OA1 gene. HUM MUTAT 19:85-92 (2002).

Okumura S, Muraoka O, Tsukamoto Y, Tanaka H, Kohama K, Miki N, Taira E: Involvement of gicerin in the extension of microvilli. EXP CELL RES 271:269-276 (2001).

Olivares C, García-Borrón JC, Solano F: Identification of active site residues involved in metal cofactor binding and stereospecific substrate recognition in mammalian tyrosinase. Implications to the catalytic cycle. BIOCHEMISTRY USA 41:679-686 (2002).

Palmieri G, Cossu A, Lissia A, Leoncini L, Lazzi S, Ascierto PA, Castello G, Tanda F: Detection of tyrosinase mRNA in tumor tissue microdissections from classic Kaposi's sarcoma. ANN ONCOL 12:1765-1766 (2001).

Razak KA, Fuzessery ZM: Functional organization of the pallid bat auditory cortex: Emphasis on binaural organization. J NEUROPHYSIOL 87:72-86 (2002).

Rong P, Wang X, Niesman I, Wu Y, Benedetti LE, Dunia I, Levy E, Gong XH: Disruption of Gja8 (α8 connexin) in mice leads to microphthalmia associated with retardation of lens growth and lens fiber maturation. DEVELOPMENT 129:167-174 (2002).

Sarangarajan R, Boissy RE: Tyrp1 and oculocutaneous albinism type 3. PIGM CELL RES 14:437-444 (2001).

Shen B, Orlow SJ: The ocular albinism type 1 gene product is an N-glycoprotein but glycosylation is not required for its subcellular distribution. PIGM CELL RES 14:485-490 (2001).

Shi CX, Hitt M, Ng P, Graham FL: Superior tissue-specific expression from tyrosinase and prostate-specific antigen promoters/enhancers in helper-dependent compared with first-generation adenoviral vectors. HUM GENE THER 13:211-224 (2002).

Shimizu K, Kondo R, Sakai K, Takeda N, Nagahata T, Oniki T: Novel vitamin E derivative with 4-substituted resorcinol moiety has both antioxidant and tyrosinase inhibitory properties. LIPIDS 36:1321-1326 (2001).

Siegbahn PEM, Wirstam M: Is the bis-μ-oxo Cu-2(III,III) state an intermediate in tyrosinase? J AM CHEM SOC 123:11819-11820 (2001).

Tanita M, Matsunaga J, Miyamura Y, Dakeishi M, Nakamura E, Kono M, Shimizu H, Tagami H, Tomita Y: Polymorphic sequences of the tyrosinase gene: allele analysis on 16 OCA1 patients in Japan indicate that three polymorphic sequences in the tyrosinase gene promoter could be powerful markers for indirect gene diagnosis. J HUM GENET 47:1-6 (2002).

Thirunavukkarasu C, Singh JPV, Selvendiran K, Sakthisekaran D: Chemopreventive efficacy of selenium against N-nitrosodiethylamine-induced hepatoma in albino rats. CELL BIOCHEM FUNCT 19:265-271 (2001).

Vachtenheim J, Novotna H, Ghanem G: Transcriptional repression of the microphthalmia gene in melanoma cells correlates with the unresponsiveness of target genes to ectopic microphthalmia-associated transcription factor. J INVEST DERMATOL 117:1505-1511 (2001).

Vingrys AJ, Bui BV: Development of postreceptoral function in pigmented and albino guinea pigs. VISUAL NEUROSCI 18:605-613 (2001).

Voisey J, vanDaal A: Agouti: from mouse to man, from skin to fat. PIGM CELL RES 15:10-18 (2002).

Xu XW, Chu AY, Pasha TL, Elder DE, Zhang PJ: Immunoprofile of MITF, tyrosinase, melan-A, and MAGE-1 in HMB45-negative melanomas. AMER J SURG PATHOL 26:82-87 (2002).

Yang YK, Dickinson C, Lai YM, Li JY, Gantz I: Functional properties of an agouti signaling protein variant and characteristics of its cognate radioligand. AMER J PHYSIOL REGUL INTEGR C 281:R1877-R1886 (2001).

MISCELLANEOUS

Boulton M, Rózanowska M, Rózanowski B: Retinal photodamage. J PHOTOCHEM PHOTOBIOL B BIOL 64:144-161 (2001).

Fischer AJ, Reh TA: Transdifferentiation of Pigmented epithelial cells: A source of retinal stem cells? DEVELOP NEUROSCI 23:268-276 (2001).

Hannibal J, Hindersson P, Knudsen SM, Georg B, Fahrenkrug J: The photopigment melanopsin is exclusively present in pituitary adenylate cyclase-activating polypeptide-containing retinal ganglion cells of the retinohypothalamic tract. J NEUROSCI 22:NIL (2002).

Koul R, Chacko A, Ganesh A, Bulusu S, AlRiyami K: Vigabatrin associated retinal dysfunction in children with epilepsy. ARCH DIS CHILD 85:469-473 (2001).

Ng TF, Streilein JW: Light-induced migration of retinal microglia into the subretinal space. INVEST OPHTHALMOL VISUAL SCI 42:3301-3310 (2001).

Parkin B, Law C: Axenfeld anomaly and retinal changes in Ramon syndrome: Follow-up of two sibs. AMER J MED GENET 104:131-134 (2001).

Tomida K, Tamai K, Matsuda Y, Matsubara A, Ogura Y: Hypercholesterolemia induces leukocyte entrapment in the retinal microcirculation of rats. CURR EYE RES 23:38-43 (2001).

Wong P, Ulyanova T, Organisciak DT, Bennett S, Lakins J, Arnold JM, Kutty RK, Tenniswood M, vanVeen T, Darrow RM, Chader G: Expression of multiple forms of clusterin during light-induced retinal degeneration. CURR EYE RES 23:157-165 (2001).