

PASPCR Newsletter

Volume 6 Number 2 June,1998

Introduction . . .

The **PASPCR** *Newsletter* is published quarterly and is intended to serve as a means of communication for the members of our Society. As such, we invite our membership to actively contribute to it; help us to update the Job Listings, Calendar of Events, Meeting Reports, and other items of general interest. If you attend a scientific meeting at which you heard work 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. If you should have a change of affiliation or address, we'd like to know that, too. 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 Vince Hearing, preferably by Email to hearingy@nih.gov.

The **PASPCR** Web page is the major, up-to-date source of current information for the PASPCR membership. The **new** URL address for the home page is: http://www.cbc.umn.edu/paspcr. Please update your existing PASPCR link to this new address (the old one will disappear in a few months). The PASPCR site contains information on the goals, ByLaws and Rules of the Society, future meetings, past issues of the PASPCR Newsletter as well as links to other related sites including the InterPig DataBase, the International Pigment Cell Conference in Nagoya, the International Federation of Pigment Cell Societies (IFPCS), and the regional Pigment Cell Societies from Europe and Japan. In addition, the PASPCR membership directory is available on that page; please notify us if you wish any or all of your information to be deleted or modified on that site.

Please check out the **PASPCR** *Web page* and send any comments and/or suggestions to the PASPCR WebMaster, Bill Oetting at bill@lenti.med.umn.edu or to Vince Hearing at hearingv@nih.gov.

IN THIS ISSUE
Introduction p 1 PASPCR Contact Information p 2 Calendar of Events p 2 Welcome to New Members p 3 Corporate Sponsors p 3 Call for 1998 IFPCS Travel Awards p 3 Invitation to the 8th ESPCR Meeting p 3 Invitation to the XVIIth I P C C p 4 Positions Wanted / Available p 4 Meeting Report - Genetics of Aging p 5 Travel Report - to Japan p 6 Bibliography p 9
Welcome to New Members

PanAmerican Society for **Pigment Cell Research**

c/o Dr. James J. Nordlund / Raymond Boissy

Department of Dermatology University of Cincinnati 231 Bethesda Avenue Cincinnati, OH 45267-0592 FAX: (513) 558-0198

Officers

Sally Frost-Mason President Richard A. King President-Elect James J. Nordlund Secretary/Treasurer

Council Members

Gregory S. Barsh Jean L. Bolognia M. Lynn Lamoreux Kenneth A. Mason Estela E. Medrano Frank L. Meyskens, Jr. David A. Norris William J. Pavan John M. Pawelek

IFPCS Representative

Vincent J. Hearing past-President

The PASPCR Newsletter is published quarterly; for further information or to submit articles, contact:

Publications Committee:

Dr. Jean L. Bolognia

Department of Dermatology Yale University School of Medicine 333 Cedar Street New Haven, CT 06510 (203) 785-4092 (203) 785-7637 Phone:

Dr. Estela E. Medrano

FAX:

Veterans Administration Medical Center Research Service (5) 2002 Holcombe Drive Houston, TX 77030 (713) 791-<u>1414</u> ext 4174 Phone:

(713) 794-7978 FAX:

Dr. William J. Pavan (chair)

Laboratory of Genetic Disease Research Building 49 Room 4A66 National Center for Human Genome Research National Institutes of Health Bethesda, MD 20892

(301) 496-7584 (301) 402-2170 Phone: FAX:

Calendar of Events:

- VIIIth PASPCR Annual Aug 15 - 18, 1998 Meeting, to be held in Snowmass, CO (contact: Dr. David Norris, Dermatology Dept, Univ of Colorado Medical Center, Denver, CO 80262 USA; FAX: +1 303/372-1159)
- Sept 11 13, 1998 Cutaneous Neuroimmunomodulation: The Proopiomelanocortin System, to be held in Munster, Germany (contact: Science & Technology Meetings Dept, New York Academy of Sciences, 2 East 63rd St, New York, NY 10021 USA; FAX: +1 212 838-5640)
- Sept 23 26, 1998 **ESPCR** Annual Meeting, to be held in Prague, Czech Republic (contact: Dr. Jan Borovansky, Department of Biochemistry, Charles University, 1st Faculty of Medicine, U nemocnice 5, 128 53 Prague 2 Czech Republic; FAX: + 42 2-2491-5449)
- Oct 1 4, 1998 Frontiers in Melanoma, to be held in Vienna, Austria (contact: Scientific and Administrative Secretariat, Vienna Academy of Postgraduate Medical Education and Research, Alserstrasse 4, A-1090 Vienna, Austria; FAX: +43 1 405-138323)
- 13th Dec 5 - 6, 1998 **JSPCR** Annual Meeting, to be held in Kobe, Japan (contact: Dr. Masamitsu Ichihashi, Department of Dermatology, Kobe University School of Medicine, 5-1 Kusunokicho, 7-chome, Chuo-ku, Kobe 650 Japan; FAX: +81 78 382-2497)
- Dec 12 16, 1998 American Society for Cell Biology, Annual Meeting to be held in San Francisco, CA (contact: http://www/faseb.org)
- $XVII^{th}$ Oct 30 - Nov 3, 1999 International Pigment Cell Conference, to be held in Nagoya, Japan (contact: Dr. Shosuke Ito, Fujita Health University School of Health Sciences, Toyoake, Aichi 470-11, Japan; Phone: +81-562-93-2595; Fax: +81-562-93-4595; Email: sito@fujitahu.ac.jp)

Welcome to New Members

by James J Nordlund / Raymond Boissy

We welcome the following new member to the **PASPCR** . . .

Carol A. Bosco Vaishali A. Chaubal Sung Woo Choi

Sumayah Jamal Proshiela Manga

If anyone is interested in joining our Society or wishes to sponsor a member, application forms can be obtained from Dr. James J. Nordlund at the PASPCR Secretary/Treasurer's office.

Corporate Sponsors

by James J Nordlund / Raymond 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.

GOLD Corporate Patrons SILVER Corporate Patrons Corporate Patrons

ICN Pharmaceuticals, Inc Lawrence M Gelb Research Foundation of Clairol, Inc Ortho Pharmaceutical Corp Avon Products, Inc Chesebrough-Pond's USA Co Procter and Gamble Co Shiseido Co, Ltd Galderma Laboratories, Inc Stiefel Laboratories

Call for Applications – 1998 IFPCS Travel Awards by James J Nordlund / Raymond Boissy

The IFPCS has again offered each of the regional Pigment Cell Societies an IFPCS Travel Award to promote international collaborations. Details of this program can be found on the IFPCS Web Site, which can be readily accessed from the PASPCR home page. The deadline for 1998 applications will be August 1st, 1998 and decisions will be announced by the end of that month. Again, applications will be competitive and can be up to 1 page in length and should note the laboratory to be visited, the project or collaboration to be performed, estimate the expenses involved (Travel Stipends can be for up to \$3,000) and the time frame of the proposed travel. Applications should be submitted to the office of Dr. James J. Nordlund, Secretary-Treasurer of the PASPCR.

Invitation to the 8th ESPCR Meeting in Prague

by Jan Borovansky

The 8th Meeting of the European Society for Pigment Cell Research will be organized by 1st Faculty of Medicine, Charles University in Prague, September 23-26, 1998. In addition to usual topics (melanin, melanogenesis, melanosome, melanocyte, melanoma, disorders of pigmentation) two special sessions devoted to Photoprotection and Phototherapy will be scheduled in cooperation with the European Society for Photobiology. Details on the scientific program can be obtained from dr J. Borovansky (fax: +42 2 2491-5449; Email: jborov@lf1.cuni.cz); registration forms can be obtained from the Congress Office, KAHLEN spol, Vlkova 24, 130 00 Prague 3, Czech Republic (fax +42 2 6719-5304; Email: kahlen@kahlen.cz).

Invitation to the XVIIth IPCC (International Pigment Cell Conference)

by Shosuke Ito

Invitation to the XVIIth International Pigment Cell Conference Nagoya Congress Center Nagoya, Japan October 30 - November 3, 1999

Dear Colleague:

After the inauguration of the International Federation of Pigment Cell Societies (IFPCS) in Kobe in 1990, the International Pigment Cell Conferences (IPCC) rotate among the European, American, and Asian continents, hosted by one of the three regional societies: the ESPCR, the JSPCR, and the PASPCR. The 15th IPCC was thus held in London in 1993, chaired by Professor Patrick A. Riley, and the 16th IPCC was recently held in Anaheim, California, chaired by Professor Frank L. Meyskens, Jr.

It is our great honor and real pleasure to inform you that the next 17th IPCC will be held in Nagoya, Japan in 1999, co-organized by the IFPCS and the JSPCR. We heartily hope that pigment cell biologists and clinicians will join together in Nagoya in October 1999 to present their latest achievements in the exciting world of pigment cell research. Your participation will be most important for the scientific success of this meeting.

The city of Nagoya, the 4th largest in Japan, enjoys a rich history of traditional culture and a reputation for world-renowned high-tech industries. Nagoya is located at the center of Japan and is easy to access: the Nagoya International Airport is directly connected with 30 cities around the world. The conference site, the Nagoya Congress Center, is newly built and has ample spaces for the participants to discuss and exchange ideas, which we believe will certainly bring about fruitful collaborations.

We will follow the good tradition of the IFPCS leadership in directing scientific programs to unify the three regional societies. Within such a framework, we wish to place special emphasis on poster presentations. We hope to provide a certain number of travel grants for young investigators to attend this meeting. In order to be eligible for such a grant, an applicant has to be a member of one of the three regional societies for at least one year prior to the meeting. We are also planning banquet and social activities in such a way to make your visit to Nagoya most enjoyable and memorable. It will be our great privilege to welcome you and your colleagues to Nagoya in 1999.

Shosuke Ito, Ph.D. Kazumasa Wakamatsu, Ph.D. Chair, IPCC Nogoya Secretary-General, IPCC Nagoya

For further information please contact us at: Fujita Health University School of Health Sciences, Toyoake, Aichi 470-11, Japan; *Phone*: +81-562-93-2595; *Fax:* +81-562-93-4595; *Email*: sito@fujita-hu.ac.jp

Positions - Wanted and Available :

Research Associate Position. Successful candidate should have experience with and interest in mouse genetics. Position includes organizational responsibilities with opportunity also to undertake own research projects so long as they relate to the mouse genetics. For further information please contact Lynn Lamoreux at: 409-845-6084 (leave message) or LLamoreux@cvm.tamu.edu

Postdoctoral Positions. in the Department of Cell Biology at the NYU School of Medicine are available to study the biogenesis of melanosomes using a combined cellular, molecular and genetic approach. Prior experience in molecular or cell biology required. Applications from those with prior experience with yeast, Drosophila etc. interested in applying their skills to a mammalian system with strong genetics are especially welcome. A track record of productivity is essential. Send CV, brief description of experience and names of 3 references to: Seth J. Orlow, MD, PhD, NYU Medical Center, 560 First Avenue Room H-100, New York, NY 10016. Fax 212-263-5819, email: orlows01@mcrcr.med.nyu.edu

Postdoctoral Research Associate - Position available to study the biology of human inherited disorders of pigmentation using mouse knockout technology. The successful applicant will have a Ph.D. and/or M.D. with experience in cell biology and molecular biology. Experience with production of knockout mice using ES cell technology 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.

Postdoctoral Position - position with the pigmentation team at the J&J Skin Research Center. The Skin Research Center is located in Skillman, NJ, and is responsible for research leading to new

----4----

prescription drugs and consumer skin products. Current research involves the understanding of keratinocyte-melanocyte interactions and their regulatory role in melanogenesis. A novel, receptor-mediated pathway that affects melanogenesis has been identified, which is dependent on keratinocyte-melanocyte contact. We are looking for a molecular and cellular biologist to investigate this pathway. The candidate will be challenged to develop model systems, to study molecules involved in the regulation of melanogenesis, and to investigate keratinocyte-melanocyte interactions and their role in pigmentation. The position requires a PhD in biological science, preferably in molecular and cellular biology. Skills in the area of skin biology and pigmentation are preferred, but not required. If you, or someone you know, might be interested this position, please discuss this opportunity with them. Please contact Dr. Miri Seiberg for additional details of the position at: Johnson & Johnson, 199 Grandview Road, Skillman, NJ 08558-9418; Phone: 908-874-2325; Fax 908-874-2323; Email: MSEIBER@CPIUS.JNJ.COM. J&J provides a competitive salary and comprehensive benefits. We are an equal opportunity employer and support diversity in the workplace. This program provides basic and industrial research experience to the individual, whether they plan to pursue academic or industrial careers.

Postdoctoral Position - Ph.D. in molecular biology, biophysics, genetics or biochemistry. Position available to conduct research on molecular mechanisms of cellular response to oxidative stress in human melanocytes and melanoma cells and its regulation for preventive and therapeutic indications. Contact Dr. Frank L. Meyskens Jr., Director, University of California-Irvine, Chao Family Clinical Cancer Research Center, 101 The City Drive, Orange, CA 92668, USA. Fax (714) 456-5039 Email flmeyske@uci.edu

Predoctoral and Postdoctoral Positions - available for molecular biologists in the areas of drug discovery and metabolism research. Requires experience in gene cloning, DNA sequencing, recombinant protein expression and cell culture methods. Prior experience in dermatology research is desirable. Southern Research Institute is a diversified research and development organization. Our Life Sciences Division provides comprehensive preclinical drug development and testing capabilities as well as basic research in drug design and synthesis, pharmaceutical formulations, toxicology, virology, microbiology, and pharmacology. To apply, send resume or curriculum vitae to: Southern Research Institute, Attention: Suzann Allen, Human Resources, Department 118, P.O. Box 55305, Birmingham, AL, 35255-5305.

Faculty Position - Massachusetts General Hospital, Harvard Medical School, Cutaneous Biology Research Center. The Cutaneous Biology Research Center (CBRC) seeks a molecular, cellular or developmental biologist to establish a program in fundamental research relevant to skin pigmentation. Areas of research can include but are not limited to pigment synthesis and transfer in melanocytes, genetics of mouse coat color and development/migration of neural crest cells. Applicants must have a Ph.D. and/or M.D. degree and relevant postdoctoral experience. Only applicants with a strong research record and the potential to develop extramurally supported research programs will be considered. Individuals with a demonstrated ability to develop imaginative approaches to important biological questions are particularly encouraged to apply. Rank/salary/start-up funds and space are negotiable depending on experience and qualifications. The CBRC occupies 45,000 square feet of fully equipped laboratory space in a new multidisciplinary research facility. Interested individuals should send curriculum vitae, reprints, a statement of research and future directions, along with the names, addresses and telephone numbers of three references to: Dr. Paul F. Goetinck, Chair, Faculty Search Committee, Cutaneous Biology Research Center, Massachusetts General Hospital - East, Building 149, 13th Street, Charlestown, MA 02129

Meeting Report -

by Estela E. Medrano

Genetics of Aging, Cold Spring Harbor Laboratory, April 2 - 5, 1998

This meeting was organized by Judith Campisi (University of California, Berkeley), Leonard Guarente (Massachussetts Institute of Technology) and Calvin Harley (Geron Corporation).

Although "a priori" the reader may think that the subject of this meeting was beyond his/her scope of interest, I believe that some of you will find that recent findings on the function of genes involved in Blooms' (BS) and Werner syndromes (WRN) are of importance to the understanding of aberrant melanocyte behavior observed in these diseases. Additionally, one paper specifically dealt with melanin and the melanocyte's cell cycle.

One entire session was dedicated to WRN-like genes. BS is a rare autosomal recessive disorder characterized by sun-sensitivity, hypo-hyperpigmented spots, diabetes and predisposition to developing

cancer. The BS gene, BLM, was recently cloned and shown to encode a 1417 aminoacid protein homologous to the bacterial DNA helicase RecQ that catalyzes DNA strand-displacement and DNAdependent ATP-hydrolysis reactions. Ellis et al. reported that BLM protein expressed and purified from yeast cells has DNA helicase activity. **Neff et al.**, reported that loss of helicase activity in Bloom's patients causes genetic instability characterized by chromosome breaks, gaps, translocations and sister chromatide exchange. Werner syndrome, a segmental progeria, is an autosomal recessive disorder characterized by premature aging. Werner's patients present hypo-hyperpigmentation in the skin and excess number of melanomas compared to age-matched controls, particularly in Japanese patients. The gene mutated in WRN is also homologous to the RecQ helicases. The Loeb and Campisi labs provided evidence that the WRN protein has, in addition to the helicase activity, a 3'->5' exonuclease activity within the N-terminal one-third of the molecule. This strongly suggests a role of WRN protein in DNA repair. Another topic presented in the meeting was the role of eumelanin in melanocyte terminal differentiation. Medrano et al. presented evidence showing that melanocytes from black skin individuals respond to -MSH by accumulating large amounts of brown/black melanin which results in cell cycle exit and terminal differentiation. The peak of melanin accumulation correlates with increased levels of the cyclin-dependent kinase inhibitors p27Kip1 and p16INK4 bound to Cdk2 and Cdk4, respectively, and with loss of expression of the transcription factors and cell cycle regulators E2F1 and E2F2.

Travel Report - Japan, October 9 - 11, 1997

by Lynn Lamoreux

An Open Letter from Lynn Lamoreux

Thank You to the PanAmerican Society for Pigment Cell Research and everyone else who participated In December of 1997, the PanAmerican Society for Pigment Cell Research provided a grant which I used to visit several research laboratories in Japan.

Before we start, I want to say that I feel badly omitting the names of most of the gracious people who made this trip so memorable, and many of the sights they showed to me, but there's no way I can fit them all into so small a space of writing. Reluctantly, therefore, I'll limit mentions primarily the heads of the labs actually visited, but please ask to see my diary, with pictures of many of the other people and places. It's 30 pages, single spaced, not counting pictures. See you at Snowmass -- and of course Nagoya.

The trip was a smashing success. And the food was GREAT! It tastes like -- FOOD. Most American food tastes of -- pepper, salt, sugar, catsup, marjorum, or chilis -- disguising the sumptuous flavors of whatever food may accompany the above. With the exception of that large mouthful of green horseradish, all the Japanese food was delicious, and all tasted of itself, not of some common denominator additive. Innumerable different, delicious flavors.

I went to Japan to talk about mice. Of course, when I say talk about mice, what I really mean is talk about the many enlightenments for which we can thank the mutant mouse. These include the cloning of several genes -- notably, endothelin 3, ednrb, c-kit, SCF as Steel factor is mostly referred to in Japan, and mitf -- which when abnormal variously bring about inherited defects such as white spotting (piebaldism, or absence of melanocytes), megacolon, anemia, reduced fertility, mast cell defects, microphthalmia, vitiligo, osteopetrosis and more. I hoped to learn as much as possible about the ways in which mice in Japan are helping to answer questions about the above conditions, to find mice in Japan that we here need, and to provide any that may be needed there.

First stop, the lab of Dr. Tomohisa Hirobe. We discussed white spotting and how it is affected differently under different conditions following exposure of embryos to irradiation. And the eumelanin/pheomelanin switch mechanism, which of course is always a favorite topic, and his robustly healthy mice. (And I will not forget the elegant sushi, or the luscious pork cutlets.)

Next event was the meeting of the Japanese Pigment Cell Society. When Vince Hearing presented in English -- or Sungbin Im, formerly of Ray Boissy's lab, now back in Korea -- presented in English, the entire meeting swung over to English. Not only the presenter, but the introductions, the audience questions -- everyone switched to English. Unfortunately, I was unable to accomplish the reverse.

----6----

Fortunately there were also abstracts in English, and you have copies of these in your Pigment Cell Research Journal. (The culinary high point was octopus during the evening party, interesting in both texture and taste. But you have heard enough of the food, and my memory will begin to fail, there were so many special treats.)

Then to Kawasaki, to the lab of Dr. Masako Mizoguchi. I had brought with me the new paper out of Heinz Arnheiter's lab (Opdecamp Karin, Nakayama Atsuo, Nguyen Minh-Thanh T, Hodgkinson Colin A, Pavan William J, Arnheiter Heinz. MELANOCYTE DEVELOPMENT IN VIVO AND IN NEURAL CREST CELL CULTURES - CRUCIAL DEPENDENCE ON THE MITF BASIC-HELIX-LOOP-HELIX-ZIPPER TRANSCRIPTION. DEVELOPMENT. 1997; 124(12): 2377-2386), which I eagerly pulled out to show the folks at the same time they pulled out their copy of the same paper to show me, and a vigorous debate in semi-sign language ensued. Dr. Yoko Kawa was particularly interested in this work and its relationship to the mice. So interested that she came to visit my mouse room (yes, in Texas) soon thereafter. (But she was in Texas anyhow, with other members of her family, to visit her brother who lives in Austin. We also had lunch (kolaches) at my little ranch with the horses, the shetland sheep, and the Great Pyrenees, Ice, who particularly enjoyed meeting Yoko's nephew. Ice prefers people whose heads are close to the same height as his own).

Check out: Mizoguchi M, Murakami F, Ito M, Asano M, Baba T, Kawa Y and Kubota Y. 1997. Clinical, pathological and etiologic aspects of acquired dermal melanocytosis, Pigment Cell Res, 10:176-183.

But back to Japan. During the course of this trip I presented my "informal seminar" on the subject of genes that modify the expression of neural crest patterning, probably about six times, in the process weeding out a lot of superfluous verbiage.

The concept of the mouse can be stretched rather broadly. For example, Dr. Jiro Matsumoto, whom you know to be the editor of our journal, described Medaka melanosomes whose structure resembles that of pheomelanosomes until they are provided with a mouse tyrosinase gene, after which the structure of the melanosomes is similar to those of mammalian eumelanosomes. (I also remember an extravagantly delicious Chinese meal, a tempura feast in a wonderful little eatery that boasted what surely must be the most expressive daruma in existence, some excellent home cooking, the people at Keio University, and pleasant time spent with Jiro and Akiko Matsumoto.) And Dr. Ono checking through a tome the size of the New York City yellow pages to figure out the train schedules I needed. (Look for Ono H, Hirose E, Miyazaki K, Yamamoto H, Matsumoto J. 1997. Transgenic medaka fish bearing the mouse tyrosinase gene: expression and transmission of the transgene following electroporation of the orange-colored vairant. Pigment Cell Research, 10:168-175.)

Did I say "stretch" the concept of mouse? How about if I travelled to a marine biology station all the way to the top of Japan's biggest island, to the town of Asamushi Onsen -- so reminiscent of the area around The Jackson Laboratory where I spent so many years -- to learn about Ascidians? I think that counts as the study of mouse if I also injected mouse tyrosinase promoter into one or two of the embryos -- especially if the experiment is successful. Reiko Toyoda, a student of Dr. Hiroaki Yamamoto, was my gracious hostess, and the night spent in the dorm was the coziest, soundest sleep of the trip. Ascidians are our relatives, though they look a good bit more like seaweed than chordate. They know what to do with the tyrosinase (Sato S, Masuya H, Numakunai T, Satoh N, Ikeo K, Gojobori T, Tamura K, Ide H, Takeuchi T and Yamamoto H. 1997. Ascidian tyrosinase gene: Its unique structure and expression in the developing brain, Developmental Dynamics, 208:363-374).

Back in Sendai, with Dr. Yamamoto and his cheerful band of bodyguards, we discussed mitf and the complex mechanisms of regulatory factor function (Sato, S, Roberts K, Gambino G, Cook A, Kouzarides T and Goding Cancer Research. CBP/P300 AS A CO-FACTOR FOR THE MICROPHTHALMIA TRANSCRIPTION FACTOR. Oncogene 14:3083-3092. 1997). (Dinner at the; who knows what was in all those delicious platters full of food that we demolished before they kicked us out.) And a mouse that I crave.

And then on to Nagoya to visit Drs. Ito and Wakamatsu and more discussion of yellow and the problem - which the mouse will tell you is obvious - that there must be more regulating eumelanin vs. pheomelanin than simply MSH and MCR1 receptor. (Alison Graham, Kasumasa Wakamatsu, Gillian Hunt, Shosuke Ito and Anthony J. Thody. 1997. Agouti protein inhibits the production of eumelanin and phaeomelanin in the presence and absence of a-melanocyte stimulating hormone. Pigment Cell Research 10:298-303.) It's time to look again to the mouse on that one. Inbred mouse/carefully selected strain at

----7-----

this time may tell us more than the test tube about factors that regulate pheomelanin. Mahogany and mahoganoid (see papers out of the labs of Barsh and Cone) as well as other loci are trying to tell us something. And I hear that diet has recently been shown to influence the eumelanin/pheomelanin switch in mice mutant at the agouti locus. Another insight my mice had already told me. That's why I closely control source of food on the yellow mice.

And we discussed slaty (TYRP2). We could benefit by a slaty knockout. If four or five of us get together to attack different parts of the project, we should be able to share the rewards. We can do the injection and manage the mice at TAMU. Meanwhile, I've been backcrossing slaty-light onto C57BL/6J so it's now available for study on a comparable background. The phenotype is much more extreme than that of slaty and the mouse deserves a better look. (The pre-new-years parties in Japan are noisy fun. Jellyfish is good, but I was particularly interested in sea urchin eggs - also good. At times like this it's fun to be a biologist so as to appreciate what one is eating.)

On to Osaka and the lab of Dr. Kitamura and his many associates, who are studying mostly mast cells in mice mutant at the *mi* and *w* loci. I'm particularly fascinated by the parallels and lack thereof that are coming out of the mast cell studies compared with the melanocyte studies, which I believe will be most illuminating. Also, a very nice implicating kit overexpression in human gastrointestinal tumors (Kitamura Y, Hirota S, Isozaki K, Moriyama Y, Hashimoto K, Nishida T, Ishiguro S, Takeda M, Muhammad G, Tunio G. Gain-of-function mutations of c-kit in human gastrointestinal stromal tumors. Science. 1998. 279:577-580). (Have you ever tried eel? How about fresh fruit with a beautiful wafer-thin slice of beef? Mmmmm!)

Their animal care facilities are the most modern I have seen, and they have an internet page which has inspired me to proceed with ours and hopefully link up.

Last and very rewarding was my visit to the lab of Shin-ichi Nishikawa and his wife Satomi. Given my background, you know that I am more than a little impressed by the work of Hisahiro Yoshida and others in the lab, elegantly using the mouse mutants and modern technology to describe melanocyte migration during embryogenesis. I especially enjoy the confirmation of a basic tenant of Tom Mayer's work and the visualization of one of my favorite mouse-generated hypotheses that couldn't be published because -- well, let's face it folks, people tend not to believe what the mouse says unless it's confirmed by something more - ah - human? Of course, it is. The mouse is always right. (Yoshida, Hisahiro; Kunisada, Takahiro; Kusakabe, Moriaki; Nishikawa, Satomi and Nishikawa, Shin-Ichi. DISTINCT STAGES OF MELANOCYTE DIFFERENTIATION REVEALED BY ANALYSIS OF NONUNIFORM PIGMENTATION PATTERNS. DEVELOPMENT, 122, 1207-1214. 1996.) I hope this work will benefit and benefit from a mapping project in progress in my lab. I look forward to the results of their collaboration with Weston.

And so a final dinner with the students in a nice little place on the busy eve of the Emperor's birthday. Aside from nearly choking on something quite slippery -- I enjoyed ALL the meals-- and have felt food withdrawal from that day till this. And I lost three pounds.

I left Japan at 4:30 in the afternoon on December 24, and arrived in San Francisco at 8:30 in the morning on December 24, after a full night's sleep.

Failures? Two. First was the inability to visit all the people I wanted to meet and talk with; second, the failure to locate an inbred KSB mouse I'm looking for. Can anyone help? I only need DNA. Successes? Beyond anything I had anticipated.

It has taken more than three months for me to put these thoughts on paper for our newsletter. Because I was so far behind my work upon return?? Well, but also because, while my professional vision was considerably broadened, the personal rewards of this trip were also very great, and so -- personal -- that words fail me in trying to tell you how much I benefited from this opportunity. It was difficult and exhausting and some prices had to be paid back in the States, and it was all more than worth it. I hope others benefit at least as much as I.

Travel grants are once again available, folks. GO FOR IT! AND DON'T MISS NAGOYA IN 1999. You'll love it.

Bibliography:

The Bibliography published in this issue covers the period February, 1998 through April, 1998. 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. We have attempted to highlight any publications which include a member of the PASPCR with a star (sorry if we missed you but let us know and you'll get a free marked repeat in the next issue). Beginning this issue, in consultation with Lynn Lamoreux (of the Development Biology Expert Group), we have divided the section formerly known as "Molecular Biology" into 2 subsections entitled "Developmental Biology" and "Differentiation"; more search keywords are used and the distinction between those 2 sections is not always perfect, so a look at both sections is suggested.

MELANINS, MELANOGENS & MELANOGENESIS

- Dethy S, VanBlercom N, Damhaut P, Wikler D, Hildebrand J, Goldman S: Asymmetry of basal ganglia glucose metabolism and dopa responsiveness in parkinsonism. Movement. Disord. 13:275-280 (1998).
- Dwyer T, Muller HK, Blizzard L, Ashbolt R, Phillips G: The use of spectrophotometry to estimate melanin density in Caucasians. Cancer Epidem.Biomarker.Prev. 7:203-206 (1998).
- Fu SL, Fu MX, Baynes JW, Thorpe SR, Dean RT: Presence of dopa and amino acid hydroperoxides in proteins modified with advanced glycation end products (AGEs): amino acid oxidation products as a possible source of oxidative stress induced by AGE proteins. Biochem.J. 330:233-239:233-239 (1998).
- Gao HY, Carlson J, Stalcup AM, Heineman WR: Separation of aromatic acids, DOPA, and Methyl-DOPA by capillary electrophoresis with dendrimers as buffer additives. J.Chromatogr.Sci. 36:146-154 (1998).
- Gorgels TF, vanNorren D: Two spectral types of retinal light damage occur in albino as well as in pigmented rat: No essential role for melanin. Exp.Eye Res. 66:155-162 (1998).
- Hoffman RM: Topical liposome targeting of dyes, melanins, genes, and proteins selectively to hair follicles. J.Drug Targeting. 5:67-74 (1998).
 - Husain S, Hadi SM: DNA breakage by L-DOPA and Cu(II): breakage by melanin and bacteriophage inactivation. Mutat.Res.Fundam.Mol.Mech.Mut. 397:161-168 (1998).
- ❖ Inoue S, Hasegawa K, Wakamatsu K, Ito S: Comparison of antimelanoma effects of 4-S- cysteaminylphenol and its homologues. Melanoma Res. 8:105-112 (1998).
- Ito S, Wakamatsu K: Chemical degradation of melanins: Application to identification of dopamine-melanin. Pigm.Cell Res. 11:120-126 (1998).
 - Kipp C, Lewis EJ, Young AR: Furocoumarin-induced epidermal melanogenesis does not protect against skin photocarcinogenesis in hairless mice. Photochem.Photobiol. 67:126-132 (1998).
 - McLean J, Purvis OW, Williamson BJ, Bailey EH: Role for lichen melanins in uranium remediation. Nature 391:649-650 (1998)
 - Meyerhoffer S, Lindberg Z, Hager A, Kagedal B, Rosdahl I: Urinary excretion of 5-S-cysteinyldopa and 6-hydroxy-5-methoxyindole-2-carboxylic acid in children. Acta Derm.Venereol.[Stockh.] 78:31-35 (1998).
 - Morrish PK, Rakshi JS, Bailey DL, Sawle GV, Brooks DJ: Measuring the rate of progression and estimating the preclinical period of Parkinson's disease with [F-18] dopa PET. J.Neurol.Neurosurg.Psychiatry 64:314-319 (1998).
 - Muthane U, Yasha TC, Shankar SK: Low numbers and no loss of melanized nigral neurons with increasing age in normal human brains from India. Ann.Neurol. 43:283-287 (1998).
- Ozeki H, Ito S, Wakamatsu K, Ishiguro I: Chemical characterization of pheomelanogenesis starting from dihydroxyphenylalanine or tyrosine and cysteine. Effects of tyrosinase and cysteine concentrations and reaction time. Bba.Gen.Subjects. 1336:539-548 (1997).
 - Riley PA: Melanin. Int.J.Biochem.Cell Biol. 29:1235-1239 (1997).
 - Rosei MA, Foppoli C, Wang XT, Coccia R, Mateescu MA: Production of melanins by ceruloplasmin. Pigm.Cell Res. 11:98-102 (1998).
 - Schallreuter KU, Wood JM, Korner C, Harle KM, SchulzDouglas V, Werner ER: 6-tetrahydrobiopterin functions as a UVB-light switch for de novo melanogenesis. Bba.Protein Struct.Mol.Enzym. 1382:339-344 (1998).
 - Seitz G, Gebhardt S, Beck JF, Bohm W, Lode HN, Niethammer D, Bruchelt G: Ascorbic acid stimulates DOPA synthesis and tyrosine hydroxylase gene expression in the human neuroblastoma cell line SK-N-SH. Neurosci.Lett. 244:33-36 (1998).
 - Shin NH, Ryu SY, Choi EJ, Kang SH, Chang IM, Min KR, Kim Y: Oxyresveratrol as the potent inhibitor on dopa oxidase activity of mushroom tyrosinase. Biochem.Biophys.Res.Commun. 243:801-803 (1998).
 - Shoji T, Kobori M, Shinmoto H, Tanabe M, Tsushida T: Progressive effects of phloridzin on melanogenesis in B16 mouse melanoma cells. Biosci.Biotechnol.Biochem. 61:1963-1967 (1997).
 - Thompson JE, Basarab GS, Pierce J, Hodge CN, Jordan DB: 2,3-dihydro-2,5-dihydroxy-4H-benzopyran-4-one: A nonphysiological substrate for fungal melanin biosynthetic enzymes. Anal.Biochem. 256:1-6 (1998).
 - VonVoigtlander PF, Fici GJ, Althaus JS: Pharmacological approaches to counter the toxicity of dopa. Amino.Acids. 14:189-196 (1998).
 - Watanabe T, Tamura A, Yoshimura Y, Nakazawa H: Determination of melanin in human hair by photoacoustic spectroscopy. Anal.Biochem. 254:267-271 (1997).

Williamson PR, Wakamatsu K, Ito S: Melanin biosynthesis in Cryptococcus neoformans. J.Bacteriol. 180:1570-1572 (1998).

MELANOCYTES & KERATINOCYTES

- Baltaci V, Kilic A: A new application for reconstruction of areola with transplantation of cultured autologous melanocytes. Plast.Reconstr.Surg. 101:1056-1059 (1998).
- Burgaud JL, Poosti R, Fehrentz JA, Martinez J, Nahon JL: Melanin-concentrating hormone binding sites in human SVK14 keratinocytes. Biochem.Biophys.Res.Commun. 241:622-629 (1997).
- Carli P, Biggeri A, Nardini P, DeGiorgi V, Giannotti B: Sun exposure and large numbers of common and atypical melanocytic naevi: an analytical study in a southern European population. Br.J.Dermatol. 138:422-425 (1998).
- Clark WH, Hood AF, Tucker MA, Jampel RM: Atypical melanocytic nevi of the genital type with a discussion of reciprocal parenchymal-stromal interactions in the biology of neoplasia. Hum.Pathol. 29:S1-S24 (1998).
- Coplan RJ, Coleman B, Rubin KH: Shyness and little boy blue: Iris pigmentation, gender, and social wariness in preschoolers. Dev.Psychobiol. 32:37-44 (1998).
- deGruijl FR: Pigmentation is a dark mystery. Photochem. Photobiol. 67:R3-R3 (1998).
- Enta T, Kwan TY: Melanocytic nevi in sun-protected Canadian Hutterite children. Arch.Dermatol. 134:379-381 (1998).
- Fiskerstrand EJ, Svaasand LO, Volden G: Pigmentary changes after pulsed dye laser treatment in 125 northern European patients with port wine stains. Br.J.Dermatol. 138:477-479 (1998).
- Fujisawa H, Kondo S, Wang BH, Shivji GM, Sauder DN: The expression and modulation of IFN- α and IFN- β in human keratinocytes. J.Interferon.Cytokine.Res. 17:721-725 (1997).
- Gembitsky DS, Reichelt KL, Haakonsen P, Paulsen JE, Elgjo K: Identification of a melanocyte growth-inhibiting tripeptide and determination of its structure. J.Pept.Res. 51:80-84 (1998).
- Gregel C, Wolter M, Kaufmann R: Coincidence of balloon cell melanoma and balloon cells in a dermal nevus. Pathologe. 19:151-153 (1998).
- Haedersdal M, Efsen J, Gniadecka M, Fogh H, Keiding J, Wulf HC: Changes in skin redness, pigmentation, echostructure, thickness, and surface contour after 1 pulsed dye laser treatment of port-wine stains in children. Arch.Dermatol. 134:175-181 (1998).
- Hedley SJ, Gawkrodger DJ, Weetman AP, Morandini R, Boeynaems JM, Ghanem G, MacNeil S: α-melanocyte stimulating hormone inhibits tumour necrosis factor-alpha stimulated intercellular adhesion molecule-1 expression in normal cutaneous human melanocytes and in melanoma cell lines. Br.J.Dermatol. 138:536-543 (1998).
- Hirobe T, Wakamatsu K, Ito S: Effects of genic substitution at the agouti, brown, albino, dilute, and pink-eyed dilution loci on the proliferation and differentiation of mouse epidermal melanocytes in serum-free culture. Eur.J.Cell Biol. 75:184-191 (1998).
 - Iyengar B: The role of melanocytes in the repair of UV related DNA damage in keratinocytes. Pigm.Cell Res. 11:110-113 (1998).
 - Jayawickreme CK, Jayawickreme SP, Lerner MR: Functional screening of multiuse peptide libraries using melanophore bioassay. Combinatorial.Peptide Library.Protocols.87. 119-128:-128 (1998).
 - Kang HY, Kang WH, Lee CO: Endothelin-B receptor-mediated Ca²⁺ signaling in human melanocytes. Pflugers Arch.Eur.J.Physiol. 435:350-356 (1998).
 - Kaufmann R, Greiner D, Kippenberger S, Bernd A: Grafting of in vitro cultured melanocytes onto laser- ablated lesions in vitiligo. Acta Derm. Venereol. [Stockh.] 78:136-138 (1998).
 - Kippenberger S, Bernd A, BereiterHahn J, RamirezBosca A, Kaufmann R: The mechanism of melanocyte dendrite formation: The impact of differentiating keratinocytes. Pigm.Cell Res. 11:34-37 (1998).
- Kishikawa T, Suzuki T, Hirayama T, Sasaki Y, Wakamatu K, Ito S: A role of SH-compounds in maturation of melanosomes in cells cultured from nevus Ota. J.Submicrosc.Cytol.Pathol. 30:117-125 (1998).
 - LeFoll F, Castel H, Soriani O, Vaudry H, Cazin L: Gramicidin-perforated patch revealed depolarizing effect of GABA in cultured frog melanotrophs. J.Physiol.London. 507:55-69 (1998).
 - Micali G, DiStefano AG, Nasca MR, Musumeci ML: A 46-year-old man with a 4-year history of diffuse brownish black pigmentation Diagnosis: Endogenous ochronosis (Alkaptonuria). Arch.Dermatol. 134:98 (1998).
 - Morrow GL, Abbott RL: Minocycline-induced scleral, dental, and dermal pigmentation. Am.J.Ophthalmol. 125:396-397
 - Nakajima M, Shinoda I, Fukuwatari Y, Hayasawa H: Arbutin increases the pigmentation of cultured human melanocytes through mechanisms other than the induction of tyrosinase activity. Pigm.Cell Res. 11:12-17 (1998).
 - Nakanishi Y, Matsuno Y, Shimoda T, Wada T, Yamazaki N, Yamamoto A, Hirohashi S: Eccrine porocarcinoma with melanocyte colonization. Br.J.Dermatol. 138:519-521 (1998).
 - Paini C, Savant F, Malcovati M, Tenchini ML: Induction of keratinocyte proliferation by a short treatment with keratinocyte-conditioned medium. Cell Biol.Int. 21:477-482 (1997).
 - Park WS, Vortmeyer AO, Pack S, Duray PH, Boni R, AliGuerami A, EmmertBuck MR, Liotta LA, Zhuang ZP: Allelic deletion at chromosome 9p21(p16) and 17p13(p53) in microdissected sporadic dysplastic nevus. Hum.Pathol. 29:127-130 (1998).
 - Passi S, Grandinetti M, Maggio F, Stancato A, DeLuca C: Epidermal oxidative stress in vitiligo. Pigm.Cell Res. 11:81-85 (1998).
- Provencio I, Jiang GS, DeGrip WJ, Hayes WP, Rollag MD: Melanopsin: An opsin in melanophores, brain, and eye. Proc.Natl.Acad.Sci.USA 95:340-345 (1998).
 - Relethford JH: Hemispheric difference in human skin color. Am.J.Phys.Anthropol. 104:449-457 (1997).

- Rodionov VI, Hope AJ, Svitkina TM, Borisy GG: Functional coordination of microtubule-based and actin-based motility in melanophores. Curr.Biol. 8:165-168 (1998).
- Rosemblat S, Sviderskaya EV, Easty DJ, Wilson A, Kwon BS, Bennett DC, Orlow SJ: Melanosomal defects in melanocytes from mice lacking expression of the pink-eyed dilution gene: Correction by culture in the presence of excess tyrosine. Exp.Cell Res. 239:344-352 (1998).
 - Schallreuter KÜ, Zschiesche M, Moore J, Panske A, Hibberts NA, Herrmann FH, Metelmann HR, Sawatzki J: In vivo evidence for compromised phenylalanine metabolism in vitiligo. Biochem.Biophys.Res.Commun. 243:395-399 (1998).
 - Schneider J, Brichard V, Boon T, zumBuschenfelde KM, Wolfel T: Overlapping peptides of melanocyte differentiation antigen Melan-A/MART-1 recognized by autologous cytolytic T lymphocytes in association with HLA-B45.1 and HLA-A2.1. Int.J.Cancer 75:451-458 (1998).
- Shoji T, Park HY, Jalbert N, Bhawan J, Byers HR: In situ and in vitro expression of protein kinase C alpha in human melanocytes. Pigm. Cell Res. 11:18-23 (1998).
 - Skov L, Clemmensen O, Baadsgaard O: Melanoma and terminology for melanocytic intraepidermal neoplasia Reply. Lancet 351:522-523 (1998).
 - Slater D: Melanoma and terminology for melanocytic intraepidermal neoplasia. Lancet 351:522-522 (1998).
 - Sviderskaya EV, Novak EK, Swank RT, Bennett DC: The murine misty mutation: Phenotypic effects on melanocytes, platelets and brown fat. Genetics 148:381-390 (1998).
- Thibaudeau G, Holder S: Cellular plasticity among axolotl neural crest-derived pigment cell lineages. Pigm.Cell Res. 11:38-44 (1998).
 - Tronnier M, Rasheed A: Relationship between keratinocyte proliferative activity, HMB-45 reactivity, and the presence of suprabasal melanocytes in acral nevi. Arch.Dermatol.Res. 290:167-170 (1998).
 - Venneker GT, Vodegel RM, Okada N, Westerhof W, Bos JD, Asghar SS: Relative contributions of decoy accelerating factor (DAF), membrane cofactor protein (MCP) and CD59 in the protection of melanocytes from homologous complement. Immunobiology 198:476-484 (1998).

MELANOMA & METASTASIS

- Ackerman AB: Melanoma in situ and matters that transcend it. Hum. Pathol. 29:4-5 (1998).
- Adatia R, Albini A, Carlone S, Giunciuglio D, Benelli R, Santi L, Noonan DM: Suppression of invasive behavior of melanoma cells by stable expression of anti-sense perlecan cDNA. Ann.Oncol. 8:1257-1261 (1997).
- Akslen LA, Monstad SE, Larsen B, Straume O, Ogreid D: Frequent mutations of the p53 gene in cutaneous melanoma of the nodular type. Int.J.Cancer 79:91-95 (1998).
- Alex JC, Krag DN, Harlow SP, Meijer S, Loggie BW, Kuhn J, Gadd M, Weaver DL: Localization of regional lymph nodes in melanomas of the head and neck. Arch.Otolaryngol.Head.Neck Surg. 124:135-140 (1998).
- Altschmied J, Ditzel L, Schartl M: Hypomethylation of the Xmrk oncogene promoter in melanoma cells of Xiphophorus. Biol.Chem. 378:1457-1466 (1997).
- Amicarelli F, Bucciarelli T, Poma A, Aimola P, Dillio C, Ragnelli AM, Miranda M: Adaptive response of human melanoma cells to methylglyoxal injury. Carcinogenesis 19:519-523 (1998).
- Anderson CM, Buzaid AC, Sussman J, Lee JJ, AliOsman F, Braunschweiger PG, Plager C, Bedikian A, Papadopoulos N, Eton O, Legha SS, Grimm EA: Nitric oxide and neopterin levels and clinical response in stage III melanoma patients receiving concurrent biochemotherapy. Melanoma Res. 8:149-155 (1998).
- Antoine EC, Benhammouda A, Bernard A, Youssef A, Mortier N, Gozy M, Nizri D, Auclerc G, Rocher MA, Soubrane CL, Weil M, Khayat D: Salpetriere hospital experience with biochemotherapy in metastatic melanoma. Cancer J.Sci.Am. 3:S16-S21:S16-S21 (1997).
- Atkins MB: Interleukin-2 in metastatic melanoma: Establishing a role. Cancer J.Sci.Am. 3:S7-S8:S7-S8 (1997).
- Atzpodien J, Buer J: Elevated serum levels of S100 and survival in metastatic malignant melanoma (Vol 75, pg 1373, 1996). Br.J.Cancer 77:681-681 (1998).
- Atzpodien J, Buer J: Elevated serum levels of S100 and survival in metastatic malignant melanoma (Vol 75, pg 1373, 1997). Br.J.Cancer 77:854-854 (1998).
- Bafaloukos D, Fountzilas G, Skarlos D, Pavlidis N, Bakoyiannis C, Karvounis N, Kosmidis P: Subcutaneous low doses of interleukin-2 and recombinant interferon alpha with carboplatin and vinblastine in patients with advanced melanoma. Oncology 55:48-52 (1998).
- Bafetti LM, Young TN, Itoh Y, Stack MS: Intact vitronectin induces matrix metalloproteinase-2 and tissue inhibitor of metalloproteinases-2 expression and enhanced cellular invasion by melanoma cells. J.Biol.Chem. 273:143-149 (1998).
- Bao SP, Thrall BD, Gies RA, Miller DL: In vivo transfection of melanoma cells by lithotripter shock waves. Cancer Res. 58:219-221 (1998).
- Bataille V, Grulich A, Sasieni P, Swerdlow A, Bishop JN, McCarthy W, Hersey P, Cuzick J: The association between naevi and melanoma in populations with different levels of sun exposure: a joint case- control study of melanoma in the UK and Australia. Br.J.Cancer 77:505-510 (1998).
- Blessing K, Sanders DA, Grant JH: Comparison of immunohistochemical staining of the novel antibody melan-A with S100 protein and HMB-45 in malignant melanoma and melanoma variants. Histopathology 32:139-146 (1998).
- BoisseauGarsaud AM, Garsaud P, Ossondo M, Azaloux H, Escarmant P, Quist D, Helenon R, Jouannelle A: Acral melanoma in the French West Indies (Martinique). Arch.Dermatol. 134:112-113 (1998).
- Boni R, Matt D, Voetmeyer A, Burg G, Zhuang ZP: Chromosomal allele loss in primary cutaneous melanoma is heterogeneous and correlates with proliferation. J.Invest.Dermatol. 110:215-217 (1998).
- Bono A, Bartoli C, Maurichi A, Moglia D, Tragni G: Melanoma of the external ear. Tumori. 83:814-817 (1997).

- Bradbury J: Antigen presentation key to melanoma vaccines. Lancet 351:731-731 (1998).
- Buzaid AC, AliOsman F, Akande N, Grimm EA, Lee JJ, Bedikian A, Eton O, Papadopoulos N, Plager C, Legha SS, Benjamin RS: DNA damage in peripheral blood mononuclear cells correlates with response to biochemotherapy in melanoma. Melanoma Res. 8:145-148 (1998).
- Campbell JH, Corrigall AV, Whittaker J, Close PM, Sutton W, VanDiggelen N, Cruse JP: The expression of pi glutathione S-transferase in primary malignant melanomas of the skin. S.Afr.J.Sci. 93:433-435 (1997).
- Casagrande F, Bacqueville D, Pillaire MJ, Malecaze F, Manenti S, BretonDouillon M, Darbon JM: G1 phase arrest by the phosphatidylinositol 3-kinase inhibitor LY 294002 is correlated to up-regulation of p27Kip1 and inhibition of G1 CDKs in choroidal melanoma cells. FEBS Lett. 422:385-390 (1998).
- Cascinelli N, Morabito A, Santinami M, MacKie RM, Belli F: Immediate or delayed dissection of regional nodes in patients with melanoma of the trunk: a randomised trial. Lancet 351:793-796 (1998).
- Cascinelli N, Belli F, Mascheroni L, Lenisa L, Clemente C: Evaluation of clinical efficacy and tolerability of intravenous high dose thymopentin in advanced melanoma patients. Melanoma Res. 8:83-89 (1998).
- Chana JS, Cree IA, Foss AE, Hungerford JL, Wilson GD: The prognostic significance of c-myc oncogene expression in uveal melanoma. Melanoma Res. 8:139-144 (1998).
- Char DH, Kroll SM, Castro J: Ten-year follow-up of helium ion therapy for uveal melanoma. Am.J.Ophthalmol. 125:81-89 (1998).
- Citro G, DAgnano I, Leonetti C, Perini R, Bucci B, Zon G, Calabretta B, Zupi G: c-myc antisense oligodeoxynucleotides enhance the efficacy of cisplatin in melanoma chemotherapy in vitro and in nude mice. Cancer Res. 58:283-289 (1998).
- Clark WH, Tucker MA: Problems with lesions related to the development of malignant melanoma: Common nevi, dysplastic nevi, malignant melanoma in situ, and radial growth phase malignant melanoma. Hum.Pathol. 29:8-14 (1998).
- Clynes R, Takechi Y, Moroi Y, Houghton A, Ravetch JV: Fc receptors are required in passive and active immunity to melanoma. Proc.Natl.Acad.Sci.USA 95:652-656 (1998).
 - Cole BF, Gelber RD, Kirkwood JM: Survival benefit in melanoma. J.Clin.Oncol. 16:388-389 (1998).
 - Cook MG: Diagnostic discord with melanoma Author's reply. J.Pathol. 184:115-115 (1998).
 - Cormier JN, Hijazi YM, Abati A, Fetsch P, Bettinotti M, Steinberg SM, Rosenberg SA, Marincola FM: Heterogeneous expression of melanoma-associated antigens and HLA-A2 in metastatic melanoma in vivo. Int.J.Cancer 75:517-524 (1998).
 - DalBufalo D, Leonetti C, Bucci B, Amedeo C, Falcioni R, Biroccio A, Zupi G: N-methylformamide induces changes on adhesive properties and lung-colonizing potential of M14 melanoma cells. Br.J.Cancer 77:210-215 (1998).
 - Damato B, Groenewald C, McGalliard J, Wong D: Endoresection of choroidal melanoma. Br.J.Ophthalmol. 82:213-218 (1998).
 - Danen EJ, Marcinkiewicz C, Cornelissen IA, vanKraats AA, Pachter JA, Ruiter DJ, Niewiarowski S, vanMuijen GP: The disintegrin eristostatin interferes with integrin α4 β1 function and with experimental metastasis of human melanoma cells. Exp.Cell Res. 238:188-196 (1998).
 - Davies CD, Muller H, Hagen I, Garseth M, Hjelstuen MH: Comparison of extracellular matrix in human osteosarcomas and melanomas growing as xenografts, multicellular spheroids, and monolayer cultures. Anticancer Res. 17:4317-4326 (1997).
 - Degen WJ, vanKempen LT, Gijzen EA, vanGroningen JM, vanKooyk Y, Bloemers HJ, Swart GM: MEMD, a new cell adhesion molecule in metastasizing human melanoma cell lines, is identical to ALCAM (Activated leukocyte cell adhesion molecule). Am.J.Pathol. 152:805-813 (1998).
 - deZoeten EF, CarrBrendel V, Cohen EP: Resistance to melanoma in mice immunized with semiallogeneic fibroblasts transfected with DNA from mouse melanoma cells. J.Immunol. 160:2915-2922 (1998).
 - DienerWest M, Connor PB, Newhouse MM, Hawkins BS: Feasibility of keying data from screen-displayed facsimile images in an ongoing trial: The Collaborative Ocular Melanoma Study. Controlled Clin.Trials. 19:39-49 (1998).
- Donois E, DelMarmol V, Wakamatsu K, Ito S, Ghanem G, SurleveBazeille JE: Comparison of high performance liquid chromatography and stereological image analysis for the quantitation of eumelanins and pheomelanins in melanoma cells. Pigm.Cell Res. 11:86-93 (1998).
 - Dorval T: Malignant melanoma: current controversies and future perspectives. Bull.Cancer 85:187-190 (1998).
 - Duarte IG, Gal AA, Mansour KA: Primary malignant melanoma of the trachea. Ann. Thorac. Surg. 65:559-560 (1998).
 - Duncan LM, Deeds J, Hunter J, Shao J, Holmgren LM, Woolf EA, Tepper RI, Shyjan AW: Down-regulation of the novel gene melastatin correlates with potential for melanoma metastasis. Cancer Res. 58:1515-1520 (1998).
 - Egan KM, Ryan LM, Gragoudas ES: Survival implications of enucleation after definitive radiotherapy for choroidal melanoma: An example of regression on time-dependent covariates. Arch.Ophthalmol. 116:366-370 (1998).
 - Essner R, Kuo CT, Wang HJ, Wen DR, Turner RR, Nguyen T, Hoon DB: Prognostic implications of p53 overexpression in cutaneous melanoma from sun-exposed and nonexposed sites. Cancer 82:309-316 (1998).
 - Farmer ER: There are standards for the proper evaluation and reporting of moles and melanoma Reply. Hum.Pathol. 29:101-102 (1998).
 - Farthmann B, Eberle J, Krasagakis K, Gstottner M, Wang NP, Bisson S, Orfanos CE: RT-PCR for tyrosinase-mRNA-positive cells in peripheral blood: Evaluation strategy and correlation with known prognostic markers in 123 melanoma patients. J.Invest.Dermatol. 110:263-267 (1998).
 - Fenton RG, TurcovskiCorrales SM, Taub DD: Induction of melanoma antigen-specific cytotoxic T lymphocytes in vitro by stimulation with B7-expressing human melanoma cell lines. J.Immunother. 21:95-108 (1998).
 - Finger PT, Romero JM, Rosen RB, Iezzi R, Emery R, Berson A: Three-dimensional ultrasonography of choroidal melanoma: Localization of radioactive eye plaques. Arch.Ophthalmol. 116:305-312 (1998).

- Fleischmann WR, Masoor J, Wu TY, Fleischmann CM: Orally administered IFN- α acts alone and in synergistic combination with intraperitoneally administered IFN- γ to exert an antitumor effect against B16 melanoma in mice Short communication. J.Interferon.Cytokine.Res. 18:17-20 (1998).
- Fontaine V, Mahieu M, Content J: Interferon-γ and interleukin-6 inhibit proliferation in human melanoma cells by different signalling pathways . Melanoma Res. 8:24-30 (1998).
- Freije JP, MacDonald NJ, Steeg PS: Differential gene expression in tumor metastasis: Nm23 Attempts.to.Understand.Metastasis Formation.II.213. 215-232:-232 (1996).
- Garsaud P, BoisseauGarsaud AM, Ossondo M, Azaloux H, Escarmant P, LeMab G, Zimmermann S, SaintCyr A, Quist D, Helenon R, Jouannelle A: Epidemiology of cutaneous melanoma in the French West Indies (Martinique). Am.J.Epidemiol. 147:66-68 (1998).
- Gefeller O, Hassan K, Wille L: Cutaneous malignant melanoma in women and the role of oral contraceptives. Br.J.Dermatol. 138:122-124 (1998).
- Gnjatic S, Cai ZZ, Viguier M, Chouaib S, Guillet JG, Choppin J: Accumulation of the p53 protein allows recognition by human CTL of a wild-type p53 epitope presented by breast carcinomas and melanomas. J.Immunol. 160:328-333 (1998).
- Golab J, Stoklosa T, Zagozdzon R, Kaca A, Giermasz A, Pojda Z, Machaj E, Dabrowska A, Feleszko W, Lasek W, IwanOsiecka A, Jakobisiak M: G-CSF prevents the suppression of bone marrow hematopoiesis induced by IL-12 and augments its antitumor activity in a melanoma model in mice. Ann.Oncol. 9:63-69 (1998).
- Grob JJ, Bonerandi JJ: The 'ugly duckling' sign: Identification of the common characteristics at nevi in an individual as a basis for melanoma screening. Arch.Dermatol. 134:103-104 (1998).
- Guiliano AE: Extraperitoneal laparoscopically assisted ilioinguinal lymphadenectomy for treatment of malignant melanoma Invited commentary. Arch.Surg. 133:275-275 (1998).
- Gunduz K, Shields JA, Shields CL, Eagle RC: Cutaneous melanoma metastatic to the vitreous cavity. Ophthalmology. 105:600-605 (1998).
- Gunduz K, Shields JA, Shields CL, Sato T, Mastrangelo MJ: Surgical removal of solitary hepatic metastasis from choroidal melanoma. Am.J.Ophthalmol. 125:407-409 (1998).
- Hagiwara A, Sakakura C, Shirasu M, Yamasaki J, Togawa T, Takahashi T, Muranishi S, Hyon S, Ikada Y: Therapeutic effects of 5-fluorouracil microspheres on peritoneal carcinomatosis induced by Colon 26 or B-16 melanoma in mice. Anti.Cancer Drug 9:287-289 (1998).
- Hakansson A, Gustafsson B, Krysander L, Hakansson L: Effect of IFN-α on tumor-infiltrating mononuclear cells and regressive changes in metastatic malignant melanoma. J.Interferon.Cytokine.Res. 18:33-39 (1998).
- Halova J, Strouf O, Zak P, Sochozova A, Uchida N, Yuzuri T, Sakakibara K, Hirota M: QSAR of catechol analogs against malignant melanoma using fingerprint descriptors. Quant.Struct.Act.Relat. 17:37-39 (1998).
- Haluska FG, Hodi FS: Molecular genetics of familial cutaneous melanoma. J.Clin.Oncol. 16:670-682 (1998).
- Hammond R: Commentary: Pregnancy should not have affected treatment for melanoma. Br.Med.J. 316:849-850 (1998).
- Harada M, Tamada K, Abe K, Li TL, Onoe Y, Tada H, Takenoyama M, Yasumoto K, Kimura G, Nomoto K: Systemic administration of interleukin-12 can restore the anti-tumor potential of B16 melanoma-draining lymph node cells impaired at a late tumor-bearing state. Int.J.Cancer 75:400-405 (1998).
- Hart IR: Transcriptionally targeted gene therapy. Attempts.to.Understand.Metastasis Formation.III.213. 19-25:-25 (1996). Hayes AJ, Oates AJ: Flow cytometric analysis of p53 oncoprotein expression in cutaneous melanoma. Br.J.Surg. 84:1751-1751 (1997).
- Hayes MT, Bartley J, Parsons PG: In vitro evaluation of fotemustine as a potential agent for limb perfusion in melanoma. Melanoma Res. 8:67-75 (1998).
- Hendrix MC, Seftor EA, Seftor RB, Gardner LM, Boldt HC, Meyer M, Peer J, Folberg R: Biologic determinants of uveal melanoma metastatic phonotype: Role of intermediate filaments as predictive markers. Lab.Invest. 78:153-163 (1998).
- Hohenberger P, Kettelhack C: Clinical management and current research in isolated limb perfusion for sarcoma and melanoma. Oncology 55:89-102 (1998).
- lida J, Meijne AL, Oegema TR, Yednock TA, Kovach NL, Furcht LT, McCarthy JB: A role of chondroitin sulfate glycosaminoglycan binding site in $\alpha(4)\beta(1)$ integrin-mediated melanoma cell adhesion. J.Biol.Chem. 273:5955-5962 (1998).
- Imhof BA, Piali L, Gisler RH, Dunon D: Involvement of α6 and αν integrins in metastasis. Attempts.to.Understand.Metastasis Formation.I.213. 195- 203:-203 (1996).
- Ishiguro T, Naito M, Hanaoka K, Nagawa H, Muto T, Tsuruo T: Enhanced metastasis of B16 melanoma cells by unexpected elevated expression of the metastasis-associated TI-241 (LRF-1-, Jun-Fos-related) gene treated with antisense oligonucleotide. Clin.Exp.Metastasis 16:179-183 (1998).
- Jackson A, Wilkinson C, Ranger M, Pill R, August P: Can primary prevention or selective screening for melanoma be more precisely targeted through general practice? A prospective study to validate a self administered risk score. Br.Med.J. 316:34-38 (1998).
- Jansen B, SchlagbauerWadl H, Brown BD, Bryan RN, vanElsas A, Muller M, Wolff K, Eichler HG, Pehamberger H: bcl-2 antisense therapy chemosensitizes human melanoma in SCID mice. Nature Med. 4:232-234 (1998).
- Jay V, Font RL: Conjunctival amelanotic malignant melanoma arising in primary acquired melanosis sine pigmento. Ophthalmology. 105:191-194 (1998).
- Johnston SD, Broadley K, Henson G, Fisher C, Henk M, Gore ME: A difficult case: Management of metastatic melanoma during pregnancy. Br.Med.J. 316:848-849 (1998).
- Josefson D: Melanoma vaccines show promise. Br.Med.J. 316:800-800 (1998).
- Jotereau F, Fonteneau JF, Labarriere N, LeGuiner S, Gervois N, LeDrean E, Diez E: Cytokine secretion by melanoma-specific CTL. Pathol.Biol. 46:125-125 (1998).

- Karp SE: Low-dose intravenous bolus interleukin-2 with interferon-α therapy for metastatic melanoma and renal cell carcinoma. J.Immunother. 21:56-61 (1998).
- Katagata Y: The biological significance of keratin in epithelial tumors in particular in squamous cell carcinoma and malignant melanoma. European. J. Dermatology. 7:543-548 (1997).
 Keilholz U, Stoter G, Punt CA, Scheibenbogen C, Lejeune F, Eggermont AM: Recombinant interleukin-2-based treatments
- Keilholz U, Stoter G, Punt CA, Scheibenbogen C, Lejeune F, Eggermont AM: Recombinant interleukin-2-based treatments for advanced melanoma: The experience of the European organization for research and treatment of Cancer Melanoma Cooperative Group. Cancer J.Sci.Am. 3:S22-S28:S22-S28 (1997).
- Kern MA, Helmbach H, Artuc M, Karmann D, Jurgovsky K, Schadendorf D: Human melanoma cell lines selected in vitro displaying various levels of drug resistance against cisplatin, fotemustine, vindesine or etoposide: Modulation of proto-oncogene expression. Anticancer Res. 17:4359-4370 (1997).
- Khorshid SM, Pinney E, Bishop JN: Melanoma excision by general practitioners in North-East Thames region, England. Br.J.Dermatol. 138:412-417 (1998).
- Kovcin V, Josifovski J, Opric M: Gastric metastases of melanoma: Two case reports. Melanoma Res. 8:90-91 (1998).
- Kroll S, Char DH: A response to uveal melanoma: Growth rate and prognosis In reply. Arch.Ophthalmol. 116:399-400 (1998).
- Ksander BR, Geer DC, Chen PW, Salgaller ML, Rubsamen P, Murray TG: Uveal melanomas contain antigenically specific and non-specific infiltrating lymphocytes. Curr.Eye Res. 17:165-173 (1998).
- Kumar R, Rozell BL, Louhelainen J, Hemminki K: Mutations in the CDKN2A (p16(INK4a)) gene in microdissected sporadic primary melanomas. Int.J.Cancer 75:193-198 (1998).
- Labarre P, Papon J, Moreau MF, Madelmont JC, Veyre A: A new quantitative method to evaluate the biodistribution of a radiolabelled tracer for melanoma using whole-body cryosectioning and a gaseous detector: comparison with conventional tissue combustion technology. Eur.J.Nucl.Med. 25:109-114 (1998).
- Langford IH, Bentham G, McDonald AL: Multi-level modelling of geographically aggregated health data: A case study on malignant melanoma mortality and UV exposure in the European community. Stat.Med. 17:41-57 (1998).
- Larsen RH, Akabani G, Welsh P, Zalutsky MR: The cytotoxicity and microdosimetry of astatine-211- labeled chimeric monoclonal antibodies in human glioma and melanoma cells in vitro. Radiat.Res. 149:155-162 (1998).
- Lee HJ, Posner JB: Radiosurgery for metastases from malignant melanoma. Cancer J.Sci.Am. 4:80-83 (1998).
- Lee JE, Mansfield PF, Ross MI: Cutaneous melanoma metastases. N.Engl.J.Med. 338:922-923 (1998).
- Legha SS, Ring S, Eton O, Bedikian A, Plager C, Papadopoulos N: Development and results of biochemotherapy in metastatic melanoma: The University of Texas M.D. Anderson Cancer Center experience. Cancer J.Sci.Am. 3:S9-S15:S9-S15 (1997).
- Lentini A, Kleinman HK, Mattioli P, AutuoriPezzoli V, Nicolini L, Pietrini A, Abbruzzese A, Cardinali M, Beninati S: Inhibition of melanoma pulmonary metastasis by methylxanthines due to decreased invasion and proliferation. Melanoma Res. 8:131-137 (1998).
- Li G, Tang L, Zhou X, Tron V, Ho V: Chemotherapy-induced apoptosis in melanoma cells is p53 dependent. Melanoma Res. 8:17-23 (1998).
- Lin JJ, Jiang HP, Fisher PB: Melanoma differentiation associated gene-9, mda-9, is a human gamma interferon responsive gene. Gene 207:105-110 (1998).
- Lugassy C, Christensen L, LeCharpentier M, Faure E, Escande JP: Ultrastructural and immunohistochemical observations concerning laminin in B16 melanoma. Is an amorphous form of laminin promoting a non hematogenous migration of tumor cells? J.Submicrosc.Cytol.Pathol. 30:137-144 (1998).
- Lulli P, Grammatico P, Brioli G, Catricala C, Morellini M, Roccella M, Mariani B, Pennesi G, Roccella F, Cappellacci S, Trabace S: HLA-DR and -DQ alleles in Italian patients with melanoma. Tissue Antigens. 51:276-280 (1998).
- Maguire HC, Berd D, Lattime EC, McCue PA, Kim S, Chapman PB, Mastrangelo MJ: Phase I study of R24 in patients with metastatic melanoma including evaluation of immunologic parameters. Cancer Biother.Radiopharm. 13:13-23 (1998).
- Manenti S, Malecaze F, Chap H, Darbon JM: Overexpression of the myristoylated alanine-rich C kinase substrate in human choroidal melanoma cells affects cell proliferation. Cancer Res. 58:1429-1434 (1998).
- Margolin KA, Liu PY, Flaherty LE, Sosman JA, Walker MJ, Smith JW, Fletcher WS, Weiss GR, Unger JM, Sondak VK: Phase II study of carmustine, dacarbazine, cisplatin, and tamoxifen in advanced melanoma: A Southwest Oncology Group Study. J.Clin.Oncol. 16:664-669 (1998).
- Marshall JF, Rutherford DC, Happerfield L, Hanby A, McCartney AE, NewtonBishop J, Hart IR: Comparative analysis of integrins in vitro and in vivo in uveal and cutaneous melanomas. Br.J.Cancer 77:522-529 (1998).
- Martin F, Kupsch J, Takeuchi Y, Russell S, Cosset FL, Collins M: Retroviral vector targeting to melanoma cells by single-chain antibody incorporation in envelope. Hum.Gene Ther. 9:737-746 (1998).
- Massi D, Borgognoni L, Reali UM, Franchi A: Malignant melanoma associated with human immunodeficiency virus infection: a case report and review of the literature. Melanoma Res. 8:187-192 (1998).
- Mather MK, Harrington AC, Montemarano A, Farley M: Surgical Pearl: Purse string suture in the management of poorly delineated melanomas, J.Am.Acad.Dermatol. 38:99-101 (1998).
- Melezinek I, Borovansky J, Elleder M, Bubnova E: Tumour tissue is a source of gamma-glutamyl transpeptidase sialoform in the sera of melanoma-bearing mice. Melanoma Res. 8:39-45 (1998).
- Mendoza L, Olaso E, Anasagasti MJ, Fuentes AM, VidalVanaclocha F: Mannose receptor-mediated endothelial cell activation contributes to B16 melanoma cell adhesion and metastasis in liver. J.Cell Physiol. 174:322-330 (1998).
- Menon LG, Kuttan R, Nair MG, Chang YC, Kuttan G: Effect of isoflavones genistein and daidzein in the inhibition of lung metastasis in mice induced by B16F-10 melanoma cells. Nutr.Cancer 30:74-77 (1998).
- Metzger S, Ellwanger U, Stroebel W, Schiebel U, Rassner G, Fierlbeck G: Extent and consequences of physician delay in the diagnosis of acral melanoma. Melanoma Res. 8:181-186 (1998).

- Mihm MC, Murphy GF: Malignant melanoma in situ: An oxymoron whose time has come. Hum.Pathol. 29:6-7 (1998).
- Mohr P, Makki A, Breitbart E, Schadendorf D: Combined treatment of stage IV melanoma patients with amifostine and fotemustine - a pilot study. Melanoma Res. 8:166-169 (1998).
- Molinari A, Calcabrini A, Meschini S, Stringaro A, DelBufalo D, Cianfriglia M, Arancia G: Detection of P-glycoprotein in the Golgi apparatus of drug- untreated human melanoma cells. Int.J.Cancer 75:885-893 (1998).
- Monzon J, Liu L, Brill H, Goldstein AM, Tucker MA, From L, McLaughlin J, Hogg D, Lassam NJ: CDKN2A mutations in multiple primary melanomas. N.Engl.J.Med. 338:879-887 (1998).
- Morton CA, MacKie RM: Clinical accuracy of the diagnosis of cutaneous malignant melanoma. Br.J.Dermatol. 138:283-
- Mueller AJ, Bartsch DU, Folberg R, Mehaffey MG, Boldt HC, Meyer M, Gardner LM, Goldbaum MH, Peer J, Freeman WR: Imaging the microvasculature of choroidal melanomas with confocal indocyanine green scanning laser ophthalmoscopy. Arch.Ophthalmol. 116:31-39 (1998).
- Mueller BM: Different roles for plasminogen activators and metalloproteinases in melanoma metastasis. Attempts.to.Understand.Metastasis Formation.I.213. 65-80:-80 (1996).
- Mullner K, Langmann G, Pendl G, Faulborn J: Echographic findings in uveal melanomas treated with the Leksell gamma knife. Br.J.Ophthalmol. 82:154-158 (1998).
- Multani AS, Li C, Ozen M, Yadav M, Yu DF, Wallace S, Pathak S: Paclitaxel and water-soluble poly (L-glutamic acid) paclitaxel, induce direct chromosomal abnormalities and cell death in a murine metastatic melanoma cell line. Anticancer Res. 17:4269-4274 (1997).
- Nanni P, Rossi I, DeGiovanni C, Landuzzi L, Nicoletti G, Stoppacciaro A, Parenza M, Colombo MP, Loll Interleukin 12 gene therapy of MHC-negative murine melanoma metastases. Cancer Res. 58:1225-1230 (1998).
- Nazarian LN, Alexander AA, Kurtz AB, Capuzzi DM, Rawool NM, Gilbert KR, Mastrangelo MJ: Superficial melanoma metastases: Appearances on gray-scale and color Doppler sonography. Am.J.Roentgenol. 170:459-463 (1998).
- Nooijen PA, Westphal JR, Eggermont AM, Schalkwijk C, Max R, deWaal RW, Ruiter DJ: Endothelial P-selectin expression is reduced in advanced primary melanoma and melanoma metastasis. Am.J.Pathol. 152:679-682 (1998).
- Okun MR: There are standards for the proper evaluation and reporting of moles and melanoma. Hum.Pathol. 29:100-101 (1998).
 - Ong C: The DNA repair capacity of melanoma cells. J.Invest.Dermatol. 110:187-188 (1998).
 - Oosterhuis JA, JourneedeKorver HG, Keunen JE: Transpupillary thermotherapy: Results in 50 patients with choroidal melanoma. Arch. Ophthalmol. 116:157-162 (1998).
 - Oriba HA, Stanley R, Snow SN, Mohs FE: Oral malignant melanoma treated with Mohs micrographic surgery by fixedtissue technique. Arch.Otolaryngol.Head.Neck Surg. 124:199-201 (1998).
 - Paquet P, Hustinx R, Rigo P, Pierard GE: Malignant melanoma staging using whole-body positron emission tomography. Melanoma Res. 8:59-62 (1998).
 - Parmiani G: Variable recognition of melanoma antigens by T cells. Pathol. Biol. 46:123-123 (1998).
 - Pecherstorfer M, Keck A: Cutaneous melanoma metastases Reply. N.Engl.J.Med. 338:923-923 (1998).
 - Penso J, Beitner R: Clotrimazole and bifonazole detach hexokinase from mitochondria of melanoma cells. Eur.J.Pharmacol. 342:113-117 (1998).
 - Ping YJ, Nakatsu Y, Goldstein AM, Tucker MA, Kraemer KH, Tanaka K: RPA2, a gene for the 32 kDa subunit of replication protein A on chromosome 1p35-36, is not mutated in patients with familial melanoma linked to chromosome 1p36. Melanoma Res. 8:47-52 (1998).
 - Pouckova P, Soucek J, Jelinek J, Zadinova M, Hlouskova D, Polivkova J, Navratil L, Cinatl J, Matousek J: Antitumor action of bovine seminal ribonuclease. Cytostatic effect on human melanoma and mouse seminoma. Neoplasma. 45:30-34 (1998).
 - Prabhakar G, Vasilakis A, Hill RC, Cruzzavala JL, Graeber GM, Gustafon RA, Murray GF: Right atrial metastatic melanoma in a patient with transient ischemic attacks. Ann. Thorac. Surg. 65:844-846 (1998).
 - Punt CA: The use of interferon-α in the treatment of cutaneous melanoma: a review. Melanoma Res. 8:95-104 (1998).
 - Ramsay J, Birrell G, Baumann K, Bodero A, Parsons P, Lavin M: Radiosensitive melanoma cell line with mutation of the gene for ataxia telangiectasia. Br.J.Cancer 77:11-14 (1998).
 - Reali UM, Martini L, Borgognoni L, Semino C, Pietra G, Chiarugi C, Guastella M, Melioli G: Infusion of in vitro expanded tumour-infiltrating lymphocytes and recombinant interleukin-2 in patients with surgically resected lymph node metastases of malignant melanoma: a pilot study. Melanoma Res. 8:77-82 (1998).
 - Reed RJ: Melanoma in situ: Images, segments, appellations, and implications. Hum.Pathol. 29:1-3 (1998).
 - Regauer S, Anderhuber W, Richtig E, Schachenreiter J, Ott A, Beham A: Primary mucosal melanomas of the nasal cavity and paranasal sinuses - A clinicopathological analysis of 14 cases. APMIS 106:403-410 (1998).

 - Rennie IG: From the outside in, or the inside out. Resecting uveal melanomas. Br.J.Ophthalmol. 82:209-209 (1998). Richard MA, Grob JJ, Zarrour H, Basseres N, Bizzari JP, Gerard B, Bonerandi JJ: Combined treatment with dacarbazine, cisplatin, fotemustine and tamoxifen in metastatic malignant melanoma. Melanoma Res. 8:170-174 (1998).
 - Riedle S, Rosel M, Zoller M: In vivo activation and expansion of T cells by a bi- specific antibody abolishes metastasis formation of human melanoma cells in SCID mice. Int.J.Cancer 75:908-918 (1998).
 - Rivers JK, Ross MI: Sentinel lymph-node biopsy in melanoma: Is less surgery better? (Vol 350, pg 1336, 1997). Lancet 351:298-298 (1998).
 - Robbins PF: Antigens recognized by melanoma-reactive T cells and the development of cancer immunotherapy. Pathol.Biol. 46:138-139 (1998).
 - RodriguezVicente J, VicenteOrtega V, CanterasJordana M: The effects of different antineoplastic agents and of pretreatment by modulators on three melanoma lines. Cancer 82:495-502 (1998).

- Rols MP, Delteil C, Golzio M, Dumond P, Cros S, Teissie J: In vivo electrically mediated protein and gene transfer in murine melanoma. Nat.Biotechnol. 16:168-171 (1998).
- Ronai Z, Yang YM, Fuchs SY, Adler V, Sardana M, Herlyn M: ATF2 confers radiation resistance to human melanoma cells. Oncogene 16:523-531 (1998).
 - Ross D, Wilson G: Flow cytometric analysis of p53 oncoprotein expression in cutaneous melanoma Reply. Br.J.Surg. 84:1751-1752 (1997).
 - Ross DA, Wilson GD: Expression of c-myc oncoprotein represents a new prognostic marker in cutaneous melanoma. Br.J.Surg. 85:46-51 (1998).
 - Rossi CR, Foletto M, Vecchiato A, Alessio S, Menin N, Lise M: Management of cutaneous melanoma M0: State of the art and trends. Eur.J.Cancer 33:2302-2312 (1997).
 - Roufosse C, Lespagnard L, Sales F, Bron D, Dargent JL: Langerhans' cell histiocytosis associated with simultaneous lymphocyte predominance Hodgkin's disease and malignant melanoma. Hum.Pathol. 29:200-201 (1998).
 - Rye PD, Fodstad O, Emilsen E, Bryne M: Invasion potential and N-acetylgalactosamine expression in a human melanoma model. Int.J.Cancer 75:609-614 (1998).
 - Sato T, Hashizume M, Hotta Y, Okahata Y: Morphology and proliferation of B16 melanoma cells in the presence of lanthanoid and Al3+ ions. Biometals. 11:107-112 (1998).
 - Saunders MP, Salisbury AJ, OByrne KJ, Souliotis VL, Varcoe SM, Talbot DC, Kyrtopoulos SA, Harris AL: A phase II study evaluating the effect of tamoxifen on DNA repair in melanoma patients treated with dacarbazine. Anticancer Res. 17:4677-4680 (1997).
 - Schreiber EG, Erasmus JJ, McAdams HP: A patient with newly diagnosed melanoma and pulmonary nodules. Chest 113:826-829 (1998).
 - Schultz ES, Diepgen TL, VondenDriesch P: Clinical and prognostic relevance of serum S-100 β protein in malignant melanoma. Br.J.Dermatol. 138:426-430 (1998).
 - Seung SK, Sneed PK, McDermott MW, Shu HG, Leong SP, Chang S, Petti PL, Smith V, Verhey LJ, Wara WM, Phillips TL, Larson DA: Gamma knife radiosurgery for malignant melanoma brain metastases. Cancer J.Sci.Am. 4:103-109 (1998).
 - Sfondrini L, Morelli D, Menard S, Maier JM, Singh M, Melani C, Terrazzini N, Colombo MP, Colnaghi MI, Balsari A: Anti-tumor immunity induced by murine melanoma cells transduced with the Mycobacterium tuberculosis gene encoding the 38-kDa antigen. Gene Therapy. 5:247-252 (1998).
 - Shields CL, Shields JA, Cater J, Lois N, Edelstein C, Gunduz K, Mercado G: Transpupillary thermotherapy for choroidal melanoma: Tumor control and visual results in 100 consecutive cases. Ophthalmology. 105:581-590 (1998).
- Shrayer DP, Kouttab N, Hearing VJ, Wanebo HJ: Immunization of mice with melanoma cells transfected to secrete the superantigen, staphylococcal enterotoxin A. Cancer Immunol.Immunother. 46:7-13 (1998).
- ❖ Silvers WK, Mintz B: Differences in latency and inducibility of mouse skin melanomas depending on the age and anatomic site of the skin. Cancer Res. 58:630-632 (1998).
 - Singh AD, DePotter P, Fijal BA, Shields CL, Shields JA, Elston RC: Lifetime prevalence of uveal melanoma in white patients with oculo(dermal) melanocytosis. Ophthalmology. 105:195-198 (1998).
 - Singh RK, Varney ML: Regulation of interleukin 8 expression in human malignant melanoma cells. Cancer Res. 58:1532-1537 (1998).
 - Sisley K, Brand C, Parsons MA, Maltby E, Rees RC, Rennie IG: Cytogenetics of iris melanomas: Disparity with other uveal tract melanomas. Cancer Genet.Cytogenet. 101:128-133 (1998).
 - Slater DN: Diagnostic discord with melanoma. J.Pathol. 184:115-115 (1998).
 - Smith AG, Brightwell G, Smit SE, Parsons PG, Sturm RA: Redox regulation of Brn-2/N-Oct-3 POU domain DNA binding activity and proteolytic formation of N-Oct-5 during melanoma cell nuclear extraction. Melanoma Res. 8:2-10 (1998).
 - Smolle J, HofmannWellenhof R, Pfaffentaler E, FinkPuches R, Kerl H: Incorporation of pre-existing collagen bundles in primary cutaneous melanoma. Melanoma Res. 8:161-165 (1998).
 - Sobottka B, Schlote T, Krumpaszky HG, Kreissig I: Choroidal metastases and choroidal melanomas: comparison of ultrasonographic findings. Br.J.Ophthalmol. 82:159-161 (1998).
 - Soruri A, Fayyazi A, Gieseler R, Schlott T, Runger TM, Neumann C, Peters JH: Specific autologous anti-melanoma T cell response in vitro using monocyte-derived dendritic cells. Immunobiology 198:527-538 (1998).
 - Swerdlow AJ, Weinstock MA: Do tanning lamps cause melanoma? An epidemiologic assessment. J.Am.Acad.Dermatol. 38:89-98 (1998).
 - Szenajch J, Kozak A, Kruszewski AA, Babiej E, Chomicka M, Struzyna J, WiktorJedrzejczak W: The effect of chemo- and chemoimmunotherapy on the presence of circulating melanoma cells in peripheral blood. Preliminary results. Acta Biochim.Pol. 45:95-102 (1998).
 - Thomas WD, Hersey P: CD4 T cells kill melanoma cells by mechanisms that are independent of Fas (CD95). Int.J.Cancer 75:384-390 (1998).
 - Thompson JA, Gold PJ, Markowitz DR, Byrd DR, Lindgren CG, Fefer A: Updated analysis of an outpatient chemoimmunotherapy regimen for treating metastatic melanoma. Cancer J.Sci.Am. 3:S29-S34:S29-S34 (1997).
 - Tofani A, Cioffi RP, Sciuto R, Rea S, Festa A, DiFilippo F, Cavaliere R, Maini CL: S-100 and NSE as serum markers in melanoma. Acta Oncol. 36:761-764 (1997).
 - Tokuuye K: Fractionated stereotactic radiotherapy for choroidal melanoma. Radiother. Oncol. 46:218-219 (1998).
 - Trias M, Targarona EM, Piulachs J, Balague C, Bombuy E, Espert JJ, Moral A, Castel MT: Extraperitoneal laparoscopically assisted ilioinguinal lymphadenectomy for treatment of malignant melanoma. Arch.Surg. 133:272-274 (1998).
 - Tufto I, Lyng H, Rofstad EK: Vascular density in human melanoma xenografts: relationship to angiogenesis, perfusion and necrosis. Cancer Lett. 123:159-165 (1998).

- Tuting T, Wilson CC, Martin DM, Kasamon YL, Rowles J, Ma DI, Slingluff CL, Wagner SN, vanderBruggen P, Baar J, Lotze MT, Storkus WJ: Autologous human monocyte-derived dendritic cells genetically modified to express melanoma antigens elicit primary cytotoxic T cell responses in vitro: Enhancement by cotransfection of genes encoding the Th1-biasing cytokines IL-12 and IFN-α. J.Immunol. 160:1139-1147 (1998).
- Valente P, Fassina G, Melchiori A, Masiello L, Cilli M, Vacca A, Onisto M, Santi L, StetlerStevenson WG, Albini A: TIMP-2 over-expression reduces invasion and angiogenesis and protects B16F10 melanoma cells from apoptosis. Int.J.Cancer 75:246-253 (1998).
- VanderLaak JM, Westphal JR, Schalkwijk LM, Pahlplatz MM, Ruiter DJ, deWaal RW, deWilde PM: An improved procedure to quantify tumour vascularity using true colour image analysis. Comparison with the manual hot-spot procedure in a human melanoma xenograft model. J.Pathol. 184:136-143 (1998).
- vanHees CM, Jager MJ, Bleeker JC, Kemme H, Bergman W: Occurrence of cutaneous and uveal melanoma in patients with uveal melanoma and their first degree relatives. Melanoma Res. 8:175-180 (1998).
- Vincensi MR, dIschia M, Napolitano A, Procaccini EM, Riccio G, Monfrecola G, Santoianni P, Prota G: Phaeomelanin versus eumelanin as a chemical indicator of ultraviolet sensitivity in fair-skinned subjects at high risk for melanoma: a pilot study. Melanoma Res. 8:53-58 (1998).
- Wagner SN, Wagner C, Briedigkeit L, Goos M: Homozygous deletion of the p16(INK4a) and the p15(INK4b) tumour suppressor genes in a subset of human sporadic cutaneous malignant melanoma. Br.J.Dermatol. 138:13-21 (1998).
- Wei QY, Cheng L, Keping, Xie, Bucana CD, Dong ZY: The DNA repair capacity of melanoma cells Reply. J.Invest.Dermatol. 110:188-189 (1998).
- Weichenthal M, Mohr P, Stephan U, Altenhoff J, Kowalzick L, Marseille A, Sarkany M, Hossfeld DK, Breitbart EW: Fotemustine and interferon α2b in metastatic malignant melanoma. J.Cancer Res.Clin.Oncol. 124:55-59 (1998).
- Welch DR, Goldberg SF: Molecular mechanisms controlling human melanoma progression and metastasis. Pathobiology 65:311-330 (1997).
- White CA, Thomson SA, Cooper L, VanEndert PM, Tampe R, Coupar B, Qiu L, Parsons PG, Moss DJ, Khanna R: Constitutive transduction of peptide transporter and HLA genes restores antigen processing function and cytotoxic T cell-mediated immune recognition of human melanoma cells. Int.J.Cancer 75:590-595 (1998).
- White VA, McNeil BK, Horsman DE: Acquired homozygosity (isodisomy) of chromosome 3 in uveal melanoma. Cancer Genet.Cytogenet. 102:40-45 (1998).
- Whited JD, Grichnik JM: Does this patient have a mole or a melanoma? JAMA 279:696-701 (1998).
- Whiteman D, Green A: History of tropical military service and risk of primary cutaneous melanoma in Queensland men. Melanoma Res. 8:63-66 (1998).
- Williams HC: Early diagnosis of malignant melanoma: surgical excision of 37 moles. Br.J.Dermatol. 138:202-203 (1998). Yan L, Yee JA, Li DH, McGuire MH, Thompson LU: Dietary flaxseed supplementation and experimental metastasis of melanoma cells in mice. Cancer Lett. 124:181-186 (1998).
- Zagozdzon R, Stoklosa T, Golab J, Giermasz A, Dabrowska A, Lasek W, Jakobisiak M: Augmented antitumor effects of combination therapy with interleukin-12, cisplatin, and tumor necrosis factor-α in a murine melanoma model. Anticancer Res. 17:4493-4498 (1997).
- Zawadzki V, Perschl A, Rosel M, Hekele A, Zoller M: Blockade of metastasis formation by CD44-receptor globulin. Int.J.Cancer 75:919-924 (1998).
- Zehetmayer M, Georgopoulos M, Ruhswurm I, TomaBstandig S, Kitz K, Ertl A, Heinzl H: Marginal dose and tumor regression after stereotactic irradiation for uveal melanoma. Radiosurgery. 114-120:-120 (1997).
- Zhu H, Reuhl K, Zhang X, Botha R, Ryan K, Wei J, Chen SZ: Development of heritable melanoma in transgenic mice. J.Invest.Dermatol. 110:247-252 (1998).

MSH, POMC, GROWTH FACTORS & RECEPTORS

- Bearzatto A, Orlandi L, Silvestrini R, Belli F, Cascinelli N, Zaffaroni N: Combined effects of interferon-α 2a and 13-cisretinoic acid on human melanoma cell growth and STAT protein expression. Melanoma Res. 8:31-38 (1998).
- Bevilacqua M, Vago T, Norbiato G: The role of melanotropins in nerve regeneration and immune defenses. Int.J.Immunother. 13:25-31 (1997).
- Cremer MC, DeBarioglio SR, Celis ME: Interaction between alpha-MSH and gabaergic agents upon striatal cAMP levels: An in vitro model. Peptides 19:383-388 (1998).
- Davies DJ, Garratt PJ, Tocher DA, Vonhoff S, Davies J, Teh MT, Sugden D: Mapping the melatonin receptor. 5. Melatonin agonists and antagonists derived from tetrahydrocyclopent[b]indoles, tetrahydrocarbazoles and hexahydrocyclohept[b]indoles. J.Med.Chem. 41:451-467 (1998).
- Elphick MR: An invertebrate G-protein coupled receptor is a chimeric cannabinoid/melanocortin receptor. Brain Res. 780:170-173 (1998).
- Esche C, Subbotin VM, Maliszewski C, Lotze MT, Shurin MR: FLT3 ligand administration inhibits tumor growth in murine melanoma and lymphoma. Cancer Res. 58:380-383 (1998).
- Golab J, Zagozdzon R, Stoklosa T, Kaca A, Dabrowska A, Giermasz A, Feleszko W, Jakobisiak M: Granulocyte colonystimulating factor demonstrates antitumor activity in melanoma model in mice. Neoplasma. 45:35-39 (1998).
- Golab J, Stoklosa T, Zagozdzon R, Kaca A, Kulchitska LA, Feleszko W, Kawiak J, Hoser G, Glowacka E, Dabrowska A, Giermasz A, Lasek W, Jakobisiak M: Granulocyte-macrophage colony-stimulating factor potentiates antitumor activity of interleukin-12 in melanoma model in mice. Tumor Biol. 19:77-87 (1998).
- Hashimoto Y, ShindoOkada N, Tani M, Nagamachi Y, Takeuchi K, Shiroishi T, Toma H, Yokota J: Expression of the Elm1 gene, a novel gene of the CCN (connective tissue growth factor, Cyr61/Cef10, and neuroblastoma overexpressed

- gene) family, suppresses in vivo tumor growth and metastasis of K-1735 murine melanoma cells. J.Exp.Med. 187:289-296 (1998).
- Hedley SJ, Gawkrodger DJ, Weetman AP, MacNeil S: α-MSH and melanogenesis in normal human adult melanocytes. Pigm.Cell Res. 11:45-56 (1998).
- Im SB, Moro O, Peng FP, Medrano EE, Cornelius J, Babcock G, Nordlund JJ, AbdelMalek ZA: Activation of the cyclic AMP pathway by α-melanotropin mediates the response of human melanocytes to ultraviolet B radiation. Cancer Res. 58:47-54 (1998).
 - Imokawa G, Higuchi K, Yada Y: Purification and characterization of an allergy-induced melanogenic stimulating factor in brownish guinea pig skin. J.Biol.Chem. 273:1605-1612 (1998).
 - Lu DS, Vage DI, Cone RD: A ligand-mimetic model for constitutive activation of the melanocortin-1 receptor. Mol.Endocrinol. 12:592-604 (1998).
 - Murata J, Ayukawa K, Ogasawara M, Fujii H, Saiki I: α-melanocyte-stimulating hormone blocks invasion of reconstituted basement membrane (Matrigel) by murine B16 melanoma cells. Invasion Metastasis 17:82-93 (1997).
 - Ni XP, Kesterson RA, Sharma SD, Hruby VJ, Cone RD, Wiedemann E, Humphreys MH: Prevention of reflex natriuresis after acute unilateral nephrectomy by melanocortin receptor antagonists. Amer.J.Physiol.Regul.Integr.C. 43:R931-R938 (1998).
 - Prachand MS, Dhingra MM, Saran A, Coutinho E, Bodi J, SuliVargha H, Medzihardszky K: Comparative conformational studies on cyclic hexapeptides corresponding to message sequence His-Phe-Arg-Trp of alpha- melanotropin by NMR. J.Pept.Res. 51:251-265 (1998).
 - Presse F, Cardona B, Borsu L, Nahon JL: Lithium increases melanin-concentrating hormone mRNA stability and inhibits tyrosine hydroxylase gene expression in PC12 cells. Mol.Brain Res. 52:270-283 (1997).
 - Roberts JE, Hu DN, Wishart JF: Pulse radiolysis studies of melatonin and chloromelatonin. J.Photochem.Photobiol.B.Biol. 42:125-132 (1998).
 - Rofstad EK, Danielsen T: Hypoxia-induced angiogenesis and vascular endothelial growth factor secretion in human melanoma. Br.J.Cancer 77:897-902 (1998).
- Roloff B, Fechner K, Slominski A, Furkert J, Botchkarev VA, BulfonePaus S, Zipper J, Krause E, Paus R: Hair cycle-dependent expression of corticotropin-releasing factor (CRF) and CRF receptors in murine skin. FASEB J. 12:287-297 (1998).
 - Sahu A: Evidence suggesting that galanin (GAL), melanin-concentrating hormone (MCH), neurotensin (NT), proopiomelanocortin (POMC) and neuropeptide Y (NPY) are targets of leptin signaling in the hypothalamus. Endocrinology 139:795-798 (1998).
 - Sands SA, DeBlas AL, Chronwall BM: Dopamine D-2 receptor effects on GABA(A) receptor expression may modify melanotrope peptide release. Peptides 19:397-401 (1998).
 - Schioth HB, Muceniece R, Wikberg JS: Characterization of the binding of MSH-B, HP-228, GHRP-6 and 153N-6 to the human melanocortin receptor subtypes. Neuropeptides 31:565-571 (1997).
 - SieberBlum M, Zhang JM: Growth factor action in neural crest cell diversification. J.Anat. 191:493-499:493-499 (1997).
 - Siegrist W, Hintermann E, Roggo CN, Apfel CM, Klaus M, Eberle AN: Melanoma cell growth inhibition and melanocortin receptor downregulation induced by selective and non-selective retinoids. Melanoma Res. 8:113-122 (1998).
 - Thiele TE, VanDijk G, Yagaloff KA, Fisher SL, Schwartz M, Burn P, Seeley RJ: Central infusion of melanocortin agonist MTII in rats: assessment of c-Fos expression and taste aversion. Amer.J.Physiol.Regul.Integr.C. 43:R248-R254 (1998).
 - Viac J, Schmitt D, Claudy A: Circulating vascular endothelial growth factor (VEGF) is not a prognostic indicator in malignant melanoma. Cancer Lett. 125:35-38 (1998).
 - Viale A, Ortola C, Richard F, Vernier P, Presse F, Schilling S, Dutrillaux B, Nahon JL: Emergence of a brain-expressed variant melanin-concentrating hormone gene during higher primate evolution: a gene "in search of a function". Mol.Biol.Evol. 15:196-214 (1998).
 - Wardlaw SL, McCarthy KC, Conwell IM: Glucocorticoid regulation of hypothalamic proopiomelanocortin. Neuroendocrinology. 67:51-57 (1998).

DEVELOPMENTAL BIOLOGY

- Barr FG, Nauta LE, Hollows JC: Structural analysis of PAX3 genomic rearrangements in alveolar rhabdomyosarcoma. Cancer Genet.Cytogenet. 102:32-39 (1998).
- Bennett GD, An J, Craig JC, Gefrides LA, Calvin JA, Finnell RH: Neurulation abnormalities secondary to altered gene expression in neural tube defect susceptible splotch embryos. Teratology 57:17-29 (1998).
- Brand M, LeMoullec JM, Corvol P, Gasc JM: Ontogeny of endothelins-1 and -3, their receptors, and endothelin converting enzyme-1 in the early human embryo. J.Clin.Invest. 101:549-559 (1998).
- Capdevila J, Tabin C, Johnson RL: Control of dorsoventral somite patterning by Wnt-1 and beta-catenin. Dev.Biol. 193:182-194 (1998).
- Carey ML, Friedman TB, Asher JH, Innis JW: Septo-optic dysplasia and WS1 in the proband of a WS1 family segregating for a novel mutation in PAX3 exon 7. J.Med.Genet. 35:248-250 (1998).
- Fujimoto A, Reddy KS, Spinks R: Interstitial deletion of chromosome 4, del(4)(q12q21.1), in a mentally retarded boy with a piebald trait, due to maternal insertion, ins(8;4). Am.J.Med.Genet. 75:78-81 (1998).
- Henderson DJ, YbotGonzalez P, Copp AJ: Over-expression of the chondroitin sulphate proteoglycan versican is associated with defective neural crest migration in the Pax3 mutant mouse (Splotch). Mech.Develop. 69:39-51 (1997).

- Hol FA, Geurds MA, Cremers CJ, Hamel BJ, Mariman EM: Identification of two PAX3 mutations causing Waardenburg syndrome, on within the paired domain (M62V) and the other downstream of the homeodomain (Q282X). Hum.Mutat. S145-S147 (1998).
- KistlerHeer V, Lauber ME, Lichtensteiger W: Different developmental patterns of melanocortin MC3 and MC4 receptor mRNA: Predominance of Mc4 in fetal rat nervous system. J.Neuroendocrinol. 10:133-146 (1998).
- Koide T, Tsuchiya K: A new inbred strain JF1 established from Japanese fancy mouse carrying the classic piebald allele (Vol 9, pg 15, 1998). Mamm.Genome 9:344-344 (1998).
- Kuhlbrodt K, Herbarth B, Sock E, HermansBorgmeyer I, Wegner M: Sox10, a novel transcriptional modulator in glial cells. J.Neurosci. 18:237-250 (1998).
- Lasch P, Naumann D: FT-IR microspectroscopic imaging of human carcinoma thin sections based on pattern recognition techniques. Cell Mol.Biol. 44:189-202 (1998).
- Lecoin L, Sakurai T, Ngo MT, Abe Y, Yanagisawa M, LeDouarin NM: Cloning and characterization of a novel endothelin receptor subtype in the avian class. Proc.Natl.Acad.Sci.USA 95:3024-3029 (1998).
- Nagata H, Worobec AS, Semere T, Metcalfe DD: Elevated expression of the proto-oncogene c-kit in patients with mastocytosis . Leukemia 12:175-181 (1998).
- Nye JS, Balkin N, Lucas H, Knepper PA, McLone DG, Charrow J: Myelomeningocele and Waardenburg syndrome (Type 3) in patients with interstitial deletions of 2q35 and the PAX3 gene: Possible digenic inheritance of a neural tube defect . Am.J.Med.Genet. 75:401-408 (1998).
- Pietsch T, Nicotra MR, Fraioli R, Wolf HK, Mottolese M, Natali PG: Expression of the c-Kit receptor and its ligand SCF in non-small-cell lung carcinomas. Int.J.Cancer 75:171-175 (1998).
- Pingault V, Bondurand N, Kuhlbrodt K, Goerich DE, Prehu MO, Puliti A, Herbarth B, HermansBorgmeyer I, Legius E, Matthijs G, Amiel J, Lyonnet S, Ceccherini I, Romeo G, Smith JC, Read AP, Wegner M, Goossens M: SOX10 mutations in patients with Waardenburg-Hirschsprung disease. Nat.Genet. 18:171-173 (1998).
- Pingault V, Bondurand M, Goossens M: SOX10, a transcriptional modulator associated with Hirschsprung disease. M.S.Med.Sci. 14:331-334 (1998).
- Reeves FC, Fredericks WJ, Rauscher FJ, Lillycrop KA: The DNA binding activity of the paired box transcription factor Pax-3 is rapidly downregulated during neuronal cell differentiation. FEBS Lett. 422:118-122 (1998).
- Rummelt V, Naumann GH, Folberg R: Reassessment of the PAS patterns in uveal melanoma Reply. Br.J.Ophthalmol. 82:102-102 (1998).
- Santschi EM, Purdy AK, Valberg SJ, Vrotsos PD, Kaese H, Mickelson JR: Endothelin receptor B polymorphism associated with lethal white foal syndrome in horses. Mamm.Genome 9:306-309 (1998).
- Seo HC, Saetre BO, Havik B, Ellingsen S, Fjose A: The zebrafish Pax3 and Pax7 homologues are highly conserved, encode multiple isoforms and show dynamic segment-like expression in the developing brain. Mech.Develop. 70:49-63 (1998).
- SouthardSmith EM, Kos L, Pavan WJ: Sox10 mutation disrupts neural crest development in DOM Hirschsprung mouse model. Nat.Genet. 18:60-64 (1998).
 - Spritz RA, Beighton P: Piebaldism with deafness: Molecular evidence for an expanded syndrome. Am.J.Med.Genet. 75:101-103 (1998).
 - Swank RT, Novak EK, McGarry MP, Rusiniak ME, Feng LJ: Mouse models of Hermansky Pudlak Syndrome: A review. Pigm.Cell Res. 11:60-80 (1998).
- Watanabe A, Takeda K, Ploplis B, Tachibana M: Epistatic relationship between Waardenburg syndrome genes MITF and PAX3. Nat.Genet. 18:283-286 (1998).
 - Yanagisawa H, Yanagisawa M, Kapur RP, Richardson JA, Williams SC, Clouthier DE, deWit D, Emoto N, Hammer RE: Dual genetic pathways of endothelin-mediated intercellular signaling revealed by targeted disruption of endothelin converting enzyme-1 gene. Development 125:825-836 (1998).

DIFFERENTIATION

- Anonymous, Microphthalmia, stem cell factor, and MAP kinase. Br.J.Ophthalmol. 82:212-212 (1998).
- Bertolotto C, Bille K, Ortonne JP, Ballotti R: In B16 melanoma cells, the inhibition of melanogenesis by TPA results from PKC activation and diminution of microphthalmia binding to the M-box of the tyrosinase promoter. Oncogene 16:1665-1670 (1998).
- Bertolotto C, Busca R, Abbe P, Bille K, Aberdam E, Ortonne JP, Ballotti R: Different cis-acting elements are involved in the regulation of TRP1 and TRP2 promoter activities by cyclic AMP: Pivotal role of M boxes (GTCATGTGCT) and of microphthalmia. Mol.Cell Biol. 18:694-702 (1998).
- Carden SM, Boissy RE, Schoettker PJ, Good WV: Albinism: modern molecular diagnosis. Br.J.Ophthalmol. 82:189-195 (1998).
 - Chellappan SP, Giordano A, Fisher PB: Role of cyclin-dependent kinases and their inhibitors in cellular differentiation and development. Cyclin.Dependent.Kinase.(Cdk.) Inhibitors.227. 57-103:-103 (1998).
 - Cho WL, Liu HS, Lee CH, Kuo CC, Chang TY, Liu CT, Chen CC: Molecular cloning, characterization and tissue expression of prophenoloxidase cDNA from the mosquito Armigeres subalbatus inoculated with Dirofilaria immitis microfilariae. Insect Mol.Biol. 7:31-40 (1998).
 - Cormier JN, Abati A, Fetsch P, Hijazi YM, Rosenberg SA, Marincola FM, Topalian SL: Comparative analysis of the in vivo expression of tyrosinase, MART-1/Melan-A, and gp100 in metastatic melanoma lesions: Implications for immunotherapy. J.Immunother. 21:27-31 (1998).
- Erf GF, TrejoSkalli AV, Poulin M, Smyth JR: Lymphocyte populations in dermal lymphoid aggregates of vitiliginous Smyth line and normally pigmented Light Brown Leghorn chickens. Vet.Immunol.Immunopathol. 58:335-343 (1997).

- ❖ Furumura M, Solano F, Matsunaga N, Sakai C, Spritz RA, Hearing VJ: Metal ligand-binding specificities of the tyrosinase-related proteins. Biochem.Biophys.Res.Commun. 242:579-585 (1998).
 - Gommerman JL, Berger SA: Protection from apoptosis by steel factor but not interleukin-3 is reversed through blockade of calcium influx. Blood 91:1891-1900 (1998).
 - Hayssen V: Effect of transatlantic transport on reproduction of agouti and nonagouti deer mice, Peromyscus maniculatus. Lab.Animals. 32:55-64 (1998).
 - Hemesath TJ, Price ER, Takemoto C, Badalian T, Fisher DE: MAP kinase links the transcription factor Microphthalmia to c-Kit signalling in melanocytes. Nature 391:298-301 (1998).
 - Honing S, Sandoval IV, vonFigura K: A di-leucine-based motif in the cytoplasmic tail of LIMP-II and tyrosinase mediates selective binding of AP-3. EMBO J. 17:1304-1314 (1998).
 - Jiang HB, Wang Y, Ma CC, Kanost MR: Subunit composition of pro-phenol oxidase from Manduca sexta: Molecular cloning of subunit ProPO-P1. Insect Biochem.Molec.Biol. 27:835-850 (1997).
 - Kahn V, BenShalom N: N-acetyl-L-tyrosine (NAT) as a substrate for mushroom tyrosinase. Pigm.Cell Res. 11:24-33 (1998).
 - Kato N, Sato S, Yamanaka A, Yamada H, Fuwa N, Nomura M: Silk protein, sericin, inhibits lipid peroxidation and tyrosinase activity. Biosci.Biotechnol.Biochem. 62:145-147 (1998).
 - Kiefer LL, Veal JM, Mountjoy KG, Wilkinson WO: Melanocortin receptor binding determinants in the agouti protein. Biochemistry 37:991-997 (1998).
 - Kippenberger S, Bernd A, Menzel I, Loitsch S, RamirezBosca A, Kaufmann R: Candida albicans suppresses transcription of melanogenesis enzymes in cultured melanocytes. Mycoses 40:373-375 (1997).
 - Kittlesen DJ, Thompson LW, Gulden PH, Skipper JA, Colella TA, Shabanowitz JA, Hunt DF, Engelhard VH, Slingluff CL: Human melanoma patients recognize an HLA-A1-restricted CTL epitope from tyrosinase containing two cysteine residues: Implications for tumor vaccine development. J.Immunol. 160:2099-2106 (1998).
 - Kobayashi H, Kokubo T, Sato K, Kimura S, Asano K, Takahashi H, Iizuka H, Miyokawa N, Katagiri M: CD4(+) T cells from peripheral blood of a melanoma patient recognize peptides derived from nonmutated tyrosinase. Cancer Res. 58:296-301 (1998).
 - Lee ST, Park SK, Lee H, Lee JS, Park YW: DNA-based prenatal diagnosis of a Korean family with tyrosinase-related oculocutaneous albinism (OCA1). Jpn.J.Hum.Genet. 42:499-505 (1997).
 - Lee WJ, Ahmed A, dellaTorre A, Kobayashi A, Ashida M, Brey PT: Molecular cloning and chromosomal localization of a prophenoloxidase cDNA from the malaria vector Anopheles gambiae. Insect Mol.Biol. 7:41-50 (1998).
 - Lu DS, HaskellLuevano CH, Vage DI, Cone RD: Functional variants of the MSH receptor (MC1-R), Agouti, and their effects on mammalian pigmentation. G.Proteins, Receptors., and.Disease.6. 231-259:-259 (1998).
 - Luyten GM, vanderSpek CW, Brand I, Sintnicolaas K, deWaardSiebinga I, Jager MJ, deJong PM, Schrier PI, Luider TM: Expression of MAGE, gp100 and tyrosinase genes in uveal melanoma cell lines. Melanoma Res. 8:11-16 (1998).
 - Mancini AJ, Chan LS, Paller AS: Partial albinism with immunodeficiency: Griscelli syndrome: Report of a case and review of the literature. J.Am.Acad.Dermatol. 38:295-300 (1998).
 - Miao Z, Kayahara H, Tadasa K: Superoxide-scavenging and tyrosinase-inhibitory activities of the extracts of some Chinese medicines. Biosci.Biotechnol.Biochem. 61:2106-2108 (1997).
 - Mochii M, Mazaki Y, Mizuno N, Hayashi H, Eguchi G: Role of Mitf in differentiation and transdifferentiation of chicken pigmented epithelial cell. Dev.Biol. 193:47-62 (1998).
 - Mosse CA, Meadows L, Luckey CJ, Kittlesen DJ, Huczko EL, Slingluff CL, Shabanowitz J, Hunt DF, Engelhard VH: The class I antigen-processing pathway for the membrane protein tyrosinase involves translation in the endoplasmic reticulum and processing in the cytosol. J.Exp.Med. 187:37-48 (1998).
 - NaishByfield S, Riley PA: Tyrosinase kinetics: Failure of acceleration in oxidation of ring-blocked monohydric phenol substrate. Pigm.Cell Res. 11:94-97 (1998).
 - Nakayama A, Nguyen MT, Chen CC, Opdecamp K, Hodgkinson CA, Amheiter H: Mutations in microphthalmia, the mouse homolog of the human deafness gene MITF, affect neuroepithelial and neural crest-derived melanocytes differently. Mech.Develop. 70:155-166 (1998).
 - Nishihira J, Fujinaga M, Kuriyama T, Suzuki M, Sugimoto H, Nakagawa A, Tanaka I, Sakai M: Molecular cloning of human D-dopachrome tautomerase cDNA: N-terminal proline is essential for enzyme activation. Biochem.Biophys.Res.Commun. 243:538-544 (1998).
- Ollmann MM, Lamoreux ML, Wilson BD, Barsh GS: Interaction of Agouti protein with the melanocortin 1 receptor in vitro and in vivo. Gene Develop. 12:316-330 (1998).
 Orlow SJ, Silvers WK, Zhou BK, Mintz B: Comparative decreases in tyrosinase, TRP-1, TRP-2, and Pmel 17/silver
- Orlow SJ, Silvers WK, Zhou BK, Mintz B: Comparative decreases in tyrosinase, TRP-1, TRP-2, and Pmel 17/silver antigenic proteins from melanotic to amelanotic stages of syngeneic mouse cutaneous melanomas and metastases. Cancer Res. 58:1521-1523 (1998).
 - Pialis P, Saville BA: Production of L-DOPA from tyrosinase immobilized on nylon 6,6: enzyme stability and scaleup. Enzyme Microb.Technol. 22:261-268 (1998).
 - Rogers SL, Gelfand VI: Myosin cooperates with microtubule motors during organelle transport in melanophores. Curr.Biol. 8:161-164 (1998).
 - Saeterdal I, Straten PH, Myklebust JH, Kirkin AF, Gjertsen MK, Gaudernack G: Generation and characterization of GP100 peptide-specific NK-T cell clones. Int.J.Cancer 75:794-803 (1998).
 - Steingrimsson E, Favor J, FerreDAmare AF, Copeland NG, Jenkins NA: Mitf(mi-enu122) is a missense mutation in the HLH dimerization domain. Mamm.Genome 9:250-252 (1998).
 - Tief K, Schmidt A, Beermann F: New evidence for presence of tyrosinase in substantia nigra, forebrain and midbrain. Mol.Brain Res. 53:307-310 (1998).

- Wada A, Tsudzuki M: Microphthalmia: A morphogenetic lethal mutation of the campbelli hamster (Phodopus campbelli). J.Hered. 89:93-96 (1998).
- Wang RF, Johnston SL, Southwood S, Sette A, Rosenberg SA: Recognition of an antigenic peptide derived from tyrosinase-related protein-2 by CTL in the context of HLA- A31 and -A33 . J.Immunol. 160:890-897 (1998).
- Weilbaecher KN, Hershey CL, Takemoto CM, Horstmann MA, Hemesath TJ, Tashjian AH, Fisher DE: Age-resolving osteopetrosis: A rat model implicating microphthalmia and the related transcription factor TFE3. J.Exp.Med. 187:775-785 (1998).

MISCELLANEOUS

- Egawa K, Honda Y, Inaba Y, Ono T: Pigmented viral warts: a clinical and histopathological study including human papillomavirus typing. Br.J.Dermatol. 138:381-389 (1998).
- Papageorgiou PP, Koumarianou AA, Chu AC: Pigmented Bowen's disease. Br.J.Dermatol. 138:515-518 (1998).
- Rawes V, Kipling D, Kill IR, Faragher RA: The kinetics of senescence in retinal pigmented epithelial cells: a test for the telomere hypothesis of ageing? Biochemistry Engl.Tr. 62:1291-1295 (1997).
- Rund CR, Christiansen JL, Johnson JC: In vitro culture of melanomacrophages from the spleen and liver of turtles: Comments on melanomacrophage morphology. Pigm.Cell Res. 11:114-119 (1998).
- Tomatis S, Bartoli C, Bono A, Cascinelli N, Clemente C, Marchesini R: Spectrophotometric imaging of cutaneous pigmented lesions: discriminant analysis, optical properties and histological characteristics. J.Photochem.Photobiol.B.Biol. 42:32-39 (1998).