**PREDICTIVE ONCOLOGY & THERAPY**

**IMPACT OF CANCER BIOTECHNOLOGY**

**DIAGNOSTIC & PROGNOSTIC INDICATORS**

**Nice, France • October 26 - 28, 1996**

3rd International Symposium • Plenary Program • http://www.ummed.edu:8000/dept/cancerprev

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**Predictive Markers**

| Systemic markers  | Site-specific markers  | Molecular genetics  |
| K FRENIKEL, PhD  | WR BRUCE, MD PhD  | L STRONG, MD  |
| NYU, NY  | Ontario Cancer Inst, Toronto  | UTX MD Anderson Cancer Ctr, Houston  |
| Site-specific markers  | Preneoplastic p53 expression  | Carcinogenic susceptibility  |
| G SELIVANOWA, PhD  | S KARIM, PhD  | S PARODI, PhD MD  |
| Karolinska Inst, Stockholm  |  | National Cancer Research Ctr, Genoa  |
| Prognostic implications of heat shock proteins  | DNA adducts of carcinogen exposure  | Precursor lesions  |
| S FUQUA, PhD  | C WILD, PhD  | E DMITROVSKY, MD  |
| UTX, San Antonio  | IARC, Lyon  | Memorial Sloan-Kettering Ctr, NY  |
| DNA adducts of carcinogen exposure  | Prognostic oncogene expression  | Angiogenesis inhibitors  |
| C WILD, PhD  | Z RONAI, PhD  | RS KERBEL, PhD  |
| IARC, Lyon  | American Health Fdn, Valhalla, NY  | Sunnybrook HSC, Toronto  |

** DEADLINE FOR ABSTRACTS ~ JUNE 28, 1996**

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Correspondence: Box 20, University of Massachusetts Medical Center, 55 Lake Ave N, Worcester, MA 01655 USA

Sponsored by the International Society for Preventive Oncology in official relation with the World Health Organization and The International Agency for Research on Cancer, and co-sponsored by:

- The French National League Against Cancer, Curie Institute (Paris), Gustave Roussy Institute (Villejuif), University of Nice Sophia-Antipolis Faculty of Medicine, The Italian National League Against Cancer, National Institute for Research on Cancer (Crimi), Advanced Biotechnology Center (Genoa), University of Bologna College of Medicine (Bologna), University of Massachusetts Medical Center (Worcester), Massachusetts Biotechnology Council

- **MBI** Massachusetts Biotechnology Council
- **IC** Institut Curie
- **IST** ISCender
- **ISP** Istituto Superiore della Pubblica Sanità
- **CBA** Consortium Biotechnology Associates
- **ABC** American Biotechnology Council
- **IFM** Istituto Italiano di Microelettronica
Parker Hughes Trust and the Alexander & Parker Corporation wish to thank the following scientists for making the Third Annual Cancer Conference a huge success:

Joseph Bertino, M.D.  
Paul Gaynon, M.D.  
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Stanley Korsmeyer, M.D.  
Marcio Malogolowkin, M.D.  
Dana Matthews, M.D.  
Ronald McCaffrey, M.D.  
Giovanni Rovera, M.D.  
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Fatih Uckun, M.D.  
Memorial Sloan-Kettering Cancer Center  
University of Wisconsin School of Medicine  
Johns Hopkins University School of Medicine  
Washington University School of Medicine  
Childrens Hospital Los Angeles  
Fred Hutchinson Cancer Research Center  
Boston University School of Medicine  
The Wistar Institute  
The Wistar Institute  
University of Minnesota School of Medicine

On March 4, 1996 a meeting was hosted in Los Angeles by Stuart E. Siegel, M.D. of Childrens Hospital Los Angeles and H. Phillip Koeffler, M.D. of Cedars-Sinai Medical Center.

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**AMERICAN ASSOCIATION FOR CANCER RESEARCH**

The American Association for Cancer Research (AACR) is a professional society of over 11,000 scientists and physicians involved in all aspects of basic, clinical, and translational cancer research. Members of the AACR enjoy

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Special programs to provide enhanced career development opportunities for minority scientists include

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*American Association for Cancer Research*  
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Telephone: (215) 440-9300  
FAX: (215) 440-9313 / E-Mail: aacr@aol.com

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**POSTDOCTORAL IRTA FELLOW**

The Women's Cancers Section, Laboratory of Pathology, National Cancer Institute, National Institutes of Health has a postdoctoral research position available to study the molecular and biochemical basis of breast cancer metastasis. A five year appointment funded by an Intramural Research Training Award is available to applicants who are U.S. citizens or permanent residents; hold a doctoral degree in biomedical, behavioral, or related sciences or have been certified as meeting all of the requirements leading to such a doctorate; and have 5 years or less of relevant postdoctoral research experience. Salary commensurate with experience ($25,000–$38,000). Please send c.v. and recent reprints to:

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The Huntsman Cancer Institute at the University of Utah

The Huntsman Cancer Institute is creating a multidisciplinary research community committed to fundamental research and its translation into clinical applications. Exploration of the cell and molecular biology of the premalignant cell through mechanism-oriented, clinical and laboratory research provides a major research focus. Research support from the Huntsman Cancer Foundation provides opportunities for the most creative new ideas of our investigators.

The Huntsman Cancer Institute is now seeking
Program Directors for Translational Research Programs in Breast and Colon Cancer
Scientists in Cellular and Molecular Basis of Carcinogenesis & Research Pathology

The Huntsman Cancer Institute is organized by both discipline and disease-specific research groups. The successful applicant will be expected to coordinate the efforts of these diverse groups, and facilitate projects ranging from laboratory-based discovery research to clinical trials, and assist in recruiting new faculty to strengthen the existing group. Resources will be provided for the initiation of the individual's own research effort as well as support for the Program. The criteria for selection will be a record of significant achievement in research and evidence of effective organizational skills. The level of the appointments will depend upon the applicants' qualifications.

Program Directors for Breast and Colon Cancer. The Huntsman Cancer Institute at the University of Utah announces two positions for senior scientists (tenure-track associate professor or professor) to organize and lead multidisciplinary groups of independent researchers in breast and colon cancer. The Director also will be expected to initiate independent research projects.

Cellular & Molecular Biology of Carcinogenesis. The Huntsman Cancer Institute at the University of Utah announces the availability of positions for tenure-track scientists studying the cellular and molecular basis of carcinogenesis. Successful applicants will be expected to initiate independent research projects on fundamental processes in cellular or molecular biology. The primary criterion for selection will be a record of achievement in basic research. A generous start-up package will be provided. Areas of special interest include: signal transduction, cell cycle regulation, cell structure, cell adhesion, DNA replication and repair, programmed cell death, differentiation, and mechanisms of immortalization.

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Interested parties should send a curriculum vitae, a one-page description of research interests, and a list of three individuals who can provide an evaluation of their professional accomplishments to:
Raymond L. White, Ph.D., Executive Director
Huntsman Cancer Institute
7410 Eccles Institute of Human Genetics
University of Utah
Salt Lake City, UT 84112

The University of Utah is an EEO/AA employer and encourages applications from women and minorities.

For additional information contact:
Raymond White, Ph.D., Executive Director Ray.White@genetics.utah.edu
Joseph Simone, M.D., Senior Clinical Director Joseph.Simone@genetics.utah.edu
Stephen Prescott, M.D., Senior Research Director Steve.Prescott@genetics.utah.edu
Mark Noble, Ph.D., Director of Cell Biology Mark.Noble@genetics.utah.edu
Texas Tech University Health Sciences Center

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Texas Tech University Health Sciences Center
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- MESOTHELIOMA, PULMONARY METASTASES, STAGE IIIA, B LUNG CANCER OR ESOPHAGEAL CANCER
- LOCALIZED SOFT TISSUE SARCOMAS
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During the last 15 years, substantial advances have been made in the elucidation of the structure and function of cytokines, those mostly soluble factors that play crucial roles in many biological systems. Their dysregulation has been extensively studied in the context of oncogenesis, inflammation, and the development of other human diseases. Tadatsugu Taniguchi (left) and Tadatsugu Taniguchi (right), in their work at the Institute for Molecular and Cellular Biology of Osaka University between 1984 and 1992, have contributed greatly to the worldwide advancement of cytokine research, and they are largely responsible for making this research field one of the most active in Japanese biological science.

Up to the beginning of the 1970s, only a few soluble factors had been described, including the interferons (IFNs), one of the first of a series of cytokines to be discovered in the late 1950s (Proc. R. Soc., B147: 258, 1957). In the early 1970s, Dr. Kishimoto demonstrated that immunoglobulin secretion by B cells is induced by a soluble factor, initially called B-cell stimulatory factor 2 (BSF-2), but now known as interleukin 6 (IL-6) (J. Immunol., 111: 1194, 1973; 155: 1179, 1975).

The molecular analysis of cytokines was initiated in late 1979, when Dr. Taniguchi and his group, then at the Cancer Institute, Japanese Foundation of Cancer Research, succeeded in cloning the human IFN-β cDNA [Proc. Jpn. Acad. Sci., 55B: 464, 1979; Gene (Amst.), 10: 11, 1980]. Almost simultaneously, cDNAs encoding IFN-α, IFN-β, and IFN-γ were independently isolated and characterized by other investigators, including Dr. Taniguchi’s mentor, Charles Weissmann, as well as David Goeddel and Walter Fiers [Nature (Lond.), 295: 503, 1982; Nucleic Acids Res., 10: 2487, 1982]. These pioneering efforts were the first to resolve the complete primary structure of IFNs, and they opened up new avenues in the discovery of the hitherto unknown molecular nature of non-abundant cytokines. This approach also made it possible to produce sufficient quantities of the cytokines by recombinant DNA technology. These studies have also had a great impact on immunology. In 1983, the group headed by Dr. Taniguchi was again the first to completely deduce the primary structure of human IL-2 and to produce recombinant IL-2 [Nature (Lond.), 302: 305, 1983]. This was not only the initial achievement in the cloning of the series of interleukins, but it was also crucial in establishing the molecular basis of lymphocyte proliferation. Recombinant IFNs and IL-2 were also the first cytokines to be applied to the treatment of human cancer and other diseases.

Since the discovery of IL-6, Dr. Kishimoto’s group has made much progress and provided evidence for the involvement of IL-6 overexpression in the pathogenesis of such diseases as atrial myxomas (Proc. Natl. Acad. Sci. USA, 82: 5490, 1985), Castleman’s disease (Blood, 74: 1360, 1989), and myelomas [Nature (Lond.), 332: 83, 1988], providing further impetus to the efforts to characterize this cytokine molecularly. In 1982, Dr. Kishimoto joined the Institute for Molecular and Cellular Biology at Osaka, a newly established research center, the fruit of the great efforts of Dr. Kishimoto’s mentor, the late Yuichi Yamamura. His group then successfully cloned the human IL-6 cDNA [Nature (Lond.), 324: 73, 1986]. Remarkably, this accomplishment was rapidly followed by the identification and molecular cloning of the IL-6 receptor (IL-6R) and the elucidation of a unique IL-6R system, 80-kD IL-6R and 130-kD signal transducer (gp130) [Science (Washington DC), 241: 825, 1988; Cell, 58: 573, 1989; Cell, 63: 1149, 1990]. What was initially a rather novel means of signal transduction is now considered to be one of the general mechanisms through which cytokines mediate their effects. In fact, gp130 is now known to function in the signal transmission of other cytokines, including ciliary neurotropic factor, leukemia inhibitory factor, oncostatin M, and IL-11 (Cell, 76: 253, 1994). The presence of a common signal transducer is now shown also in many cytokines functioning in the immune and hematopoietic systems. More recent progress made by Dr. Kishimoto’s group has provided the molecular basis for another intriguing issue: IL-6 signaling results in the induction of at least two novel transcription factors, NF-IL-6 (or LAP, C/EBPβ) and APRF (or STAT3). The former is activated by mitogen-activated protein kinases (Proc. Natl. Acad. Sci. USA, 90: 2207, 1993), whereas the latter is activated by the nonreceptor type protein tyrosine kinase (PTK) JAK2 (Cell, 77: 63, 1994). These findings represent a substantial advancement in understanding the mechanisms of cellular responses by cytokines.

Dr. Taniguchi and colleagues joined the Institute in 1984, where they worked very closely with Dr. Kishimoto’s group, a cooperation which was extremely beneficial and stimulating for both groups. Dr. Taniguchi’s group discovered the novel transcription factors IRF-1 and IRF-2, which function as activator and repressor, respectively. In collaboration with other groups, they have shown that IRF-1 is one of the critical regulators for IFN production as well as for the antiviral and antibacterial actions of IFNs [Cell, 75: 83, 1993; Science (Washington DC), 263: 1612, 1994; Science (Washington DC), 264: 1921, 1994]. Furthermore, evidence has also been provided demonstrating the antioncogenic and oncogenic activities of IRF-1 and IRF-2 [Science (Washington DC), 259: 971, 1993]. In fact, IRF-1 has been shown to be critical for oncogene-induced cell transformation or apoptosis (Cell, 77: 829, 1994), and the IRF-1 gene is frequently deleted and/or inactivated in human myelodysplasia and leukemia [Science (Washington DC), 259: 968, 1993]. Collectively, these unique findings provide a direct link between cytokine action and oncogenesis, and they contribute to the understanding of host defense mechanisms. Dr. Taniguchi and colleagues have also conducted a series of innovative studies on the mechanisms of IL-2 signal transduction, which includes the molecular characterization of the IL-2 receptor and its association with the src-family PTKs [Science (Washington DC), 244: 531, 1989; Cell, 59: 837, 1989; Science (Washington DC), 252: 1523, 1991] and identification of the nuclear target genes critical for IL-2-induced cell proliferation (Cell, 70: 57, 1992).

Drs. Kishimoto and Taniguchi are corresponding members of the American Association for Cancer Research (AACR). They have been active in fostering a closer working relationship between the AACR and the Japanese Cancer Association (JCA), each having given presentations at the First (1989) and Third (1995) Joint AACR/JCA Conferences. In addition, Dr. Kishimoto served as an Associate Editor for Cancer Research from 1990–1994. Dr. Taniguchi has been a Cancer Research Associate Editor since 1993 and a member of the Cell Growth & Differentiation Editorial Board since 1992.

The series of achievements in cytokine research made by Drs. Kishimoto and Taniguchi shows how science can flourish when research groups work together in a cooperative and scientifically stimulating manner. Although the two groups are now separate, they maintain the tradition of interacting with each other in the spirit of maximizing scientific communication and discovery.

Takashi Sugimura