Abstracts of the Workshop, Roundtable, Platform, Poster Discussion, and Poster Sessions of the Society of Toxicology 33rd Annual Meeting

March 13-17, 1994

Loews Anatole Hotel

Dallas, Texas

12 ROUNDTABLE: IS INTERNATIONAL HARMONIZATION OF RISK ASSESSMENT POSSIBLE? F R Johannsen, Monsanto Europe S.A., Brussels, Belgium

Experts in the risk assessment of chemicals will discuss possible harmonization of terminology, principles and practices on an international scale. Discussants selected represent key international regulatory and regulated communities in the U.S. and Europe to provide the broadest spectrum of viewpoints, both from a national and international perspective. Each participant will be asked to identify critical areas in need of harmonization from his or her own unique perspective, as well as those identified through audience participation, and to discuss key issues and barriers to future progress. Further, as active participants, several of the panel members will bring first-hand perspectives of the most recent IPCS efforts in global harmonization of risk assessment.

13 PERFORMANCE OF AN EXPANDED SALIVARY IGA METHOD TO ASSESS SIGA AS A BIOMARKER OF STRESS-INDUCED IMMUNOMODULATION. G Henningsen, J Hurrell[1], F Baker[2], C Douglas[2], E Baumgardner[1], B MacKenzie[1], S Robertson[1], F Phipps[1] and R Biagini[1]. USEPA/BHWM-SM, Denver, CO; [1]NIOSH/DBBS, Cincinnati, OH; and the [2]Johns Hopkins Univ., Baltimore, MD.

Salivary immunoglobulin A (sIgA) is an attractive biomolecule from the aspect of non-invasively obtaining potential human biomarkers of *exposure* to immunomodulating agents or of *effects* by correlating results with systemic immune function. Salivary samples can be readily obtained in frequent and large amounts without pain or much inconvenience. SIgA is more stable than other potential salivary biomolecules, such as cortisol or catecholamine. An ELISA (enzyme-linked immunosorbent assay) was modified to sensitively and specifically quantify both total and specific human IgA. The ELISA was used to evaluate weekly sIgA levels in 40 premenopausal nurses over 32 weeks. Monthly blood samples were drawn for comprehensive immunocompetency and clinical hematology tests. As part of a NIOSH study to evaluate occupational stress, weekly and monthly questionnaires on subjective and objective stressors were also given to the study participants for use in correlating bioassay results with stress. The antigen tested for specific sIgA was LPS (lipopolysaccharide) from five strains of E. coli). Total protein levels and salivary flow rates (ml of saliva in 5 minutes) were measured for use in correcting sIgA results. The total sIgA ELISA was calibrated for each weekly run with 8 standards of human colostrum IgA ranging from 2.5 to 50 mg%, and excellent reproducibility was obtained (±3mg%). Endpoint titers were measured as two-fold serum dilutions between 1:10 and 1:640, but more variability was observed (±0.9 of a two-fold endpoint titer). The corrected (protein and flow) sIgA ELISA assay was sufficiently sensitive, accurate and precise to differentiate between groups of high vs low stress subjects.

14 ULTRAVIOLET IRRADIATION (UVB) EFFECTS ON THE IMMUNE STATUS OF B6C3F1 MICE. JA McCay, DL Musgrove, RD Brown, LF Butterworth, KL White, Jr. and AE Munson. Department of Pharmacology & Toxicology Medical College of Virginia/VCU, Richmond, VA.

Investigations were undertaken to evaluate the immunotoxicological action of UVB at 2.4, 7.2 or 13.5 KJ/m^2 in B6C3F1 female mice. After a single exposure of 13.5 KJ/m^2, a time course study was performed using the T-dependent antibody forming cell (AFC) response as the indicator of immunotoxicity. No suppression was seen when the *s*-rbc antigen was injected 2, 4, 6 or 8 days after exposure. A time course was also performed with the mixed leukocyte response assay (MLR) as the endpoint. Maximum suppression occurred when the mice were exposed on Day 1 and the MLR assay performed 3 days later. Dose response studies using this same exposure regimen caused a spleen weight increased up to 31% and thymus weight decreased by as much as 25%. Splenocyte phenotyping showed a 20% decrease in $CD3^+$ cells, 29% decrease in $CD4^+$ cells, and a 20% decrease in $CD8^+$ cells. Natural killer cell activity and Cytotoxic T cell activity were slightly suppressed, while the MLR was suppressed up to 40%. Hepatic phagocytosis was increased by 45%. Host resistance to *Listeria monocytogenes* was increased dose dependently, while the B16F10 melanoma model showed no change in host resistance. These studies showed and confirm previous findings that UVB exposure on day 1 with evaluation on day 4 target the immune system and that T cell number and function were effected. Ongoing studies show a potential synergy between UVB and benzo(a)pyrene. Supported by NIEHS Contract ES 05288.

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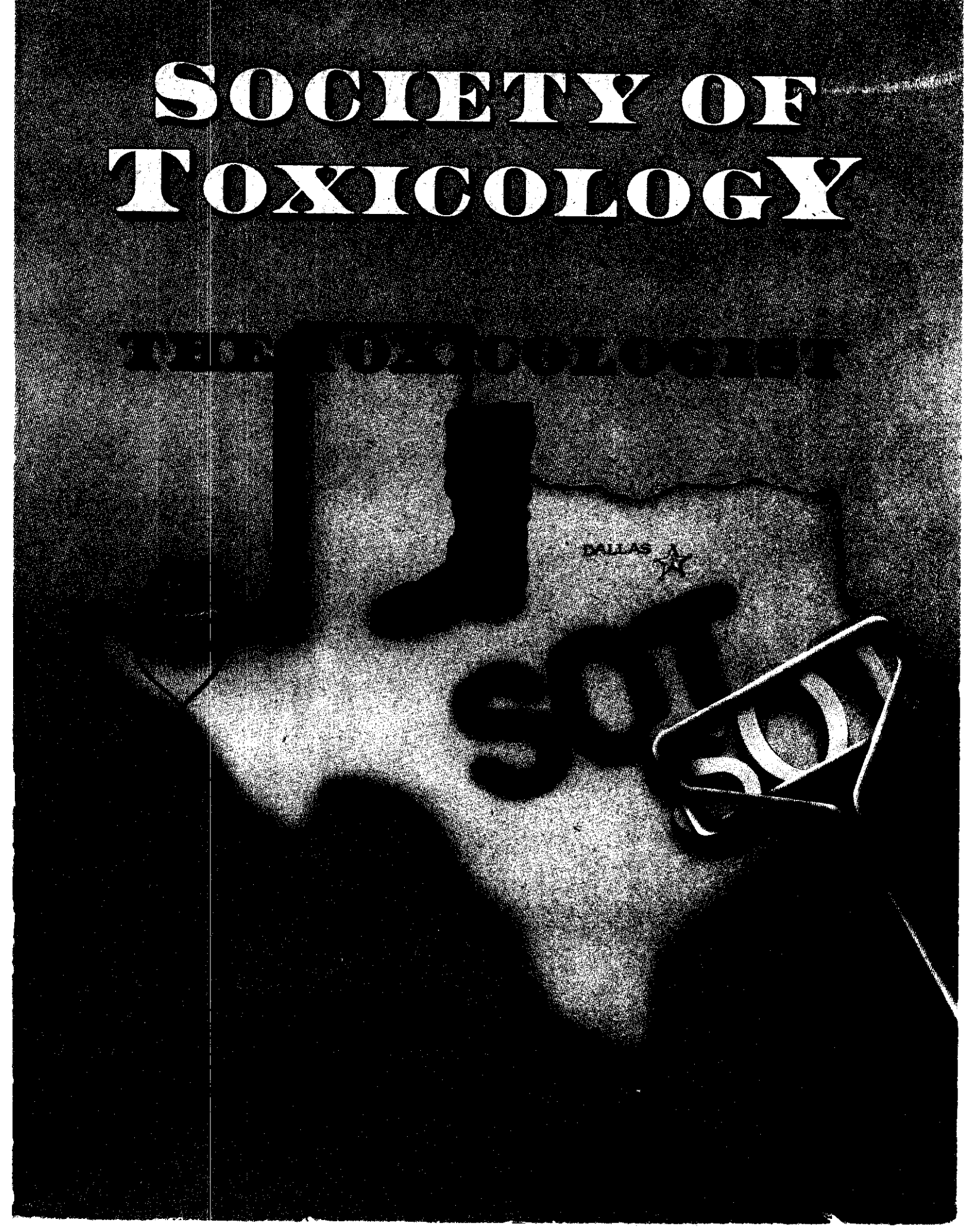

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Preface

This issue of *The Toxicologist* is devoted to the abstracts of the presentations for the symposium, platform, poster/discussion, and poster sessions of the 33rd Annual Meeting of the Society of Toxicology, held at the Loews Anatole Hotel, Dallas, Texas, March 13-17, 1994.

An alphabetical Author Index, cross-referencing the corresponding abstract number(s), begins on page 439.

The issue also contains a Keyword Index (by subject or chemical) to the titles of all the presentations, beginning on page 467.

The abstracts are reproduced as accepted by the Program Committee of the Society of Toxicology, and appear in numerical sequence, other than the symposia abstracts, which are collected in the front.

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