after treatment. *Methods*: Cell death was evaluated by MTT and flow cytometry. The release of uPA, PAI and tPA/PAI was evaluated by through ELISA. The protesomal activity was assessed by fluorimetry, and NFkappaB was accessed by Western Blot. *Results*: The obtained data showed that Amblyomin-X induces apoptosis in cancer cells but not in normal cells. The cancer cell microenvironment showed changes on uPA and PAI levels. Amblyomin-X also inhibited trypsin- and chemotrypsin-like activity of proteasome. *Discussion*: Amblyomin-X induces apoptosis in cancer cells but does not on normal cells. Furthermore, the treatment with Amblyomin-X decreases the release of uPA and PAI. *Conclusion*: Our hypothesis is that Amblyomin-X inhibits the activity of proteasome, thus indirectly inhibiting NFkappaB. This disrupts the cell cycle control and prevents the anti-apoptotic proteins transcription, killing cancer cells.

*Keywords*: Amblyomin; Microenvironment; Apoptosis

*Support*: FAPESP; CNPq.

doi:10.1016/j.toxlet.2010.03.824

**P208-059**

**A justification more to search new alternatives to leishmaniasis control: Toxicity to meglumine antimoniate formulations**

G. Delgado[1], Y. Sánchez[2], D. Plaza[1], A. Mariñol[1], D. Granadosl[1]

[1] *Immunotoxicology Research Group, Pharmacy Department, Science Faculty, Universidad Nacional de Colombia, Bogotá, D.C., Colombia,*
[2] *Interfaculty's Pathology Laboratory, Pathology Department, Medicine Faculty. Universidad Nacional de Colombia, Bogotá, D.C., Colombia*

Among the problems associated to leishmaniasis, the two most outstanding ones are the lack of a vaccine and the adverse effects caused by drugs use for its control. Meglumine antimoniate compounds are the first-line drugs in the treatment for cutaneous leishmaniasis (the most prevalent form of the disease in Colombia); nevertheless, they are far from being ideal drugs due to their toxicity (not to mention the emergence of drug-resistant parasites), all of which has prompted current search for new strategies to improve their safety. This work assesses the effectiveness and safety (toxicity as well as immunotoxicity) of two different meglumine antimoniate formulations using an in vitro and in vivo murine model. The results evidence that although both injectable formulations induce an equally efficient clearance of intracellular parasites, both give rise to adverse effects, including a preferential immunomodulation on Balb/c mice and in a lesser proportion on ICR mice. These results are comparable to human trials reporting variable reactions when following the same treatment regimen. The model presented herein is proposed as a tool for evaluating the effectiveness and safety of meglumine antimoniate-based antileishmanial formulations.

doi:10.1016/j.toxlet.2010.03.825

## P301: Cosmetics

**P301-001**

**Alleviatory effects of Chlorella-derived polypeptides against UVB-induced MMP-1 expression and extracellular matrix degradation in human skin fibroblast cells**

M.F. Shih

*Chia-Nan University of Pharmacy & Science, Taiwan*

Solar UV irradiation damages human skin and causes premature ageing that mediated through increasing matrix metalloproteinases (MMPs) expression and degradation of extracellular matrix protein such as collagen and laminin. Administration of Chlorella has been shown to play some biochemical functions, such as promoting the growth rate of animals, ameliorating blood glucose and lipids in animals, boosting immune function, preventing stress-induced ulcer, and influencing oxidative stress in ethionine treated rats. In many cosmetic products also claim to contain the components of extract of Chlorella. Some cosmetic products also contain the components of extract of Chlorella, yet to evaluate its effects. In this study, the effects of Chlorella-derived polypeptides (CDP) on alleviating skin ageing were studied by applying CDP to human skin fibroblasts during UVB irradiation.

CDP was prepared from Chlorella powder. Firstly, the powder was extracted with hot water and then centrifuged to remove unsolved particles. The resulting supernatant was then passed through 30 and 5 kDa ultra-membranes in an Amicon stirred cell. The remnant was collected and freezing dry. Chromatogram of RF on a Superdex peptide HR 10/30 column reveals a major molecular weight distribution is 430–1350 kDa. CDP (5 or 10 mg/ml) were added during UVB exposure (a total energy of 247.5 mJ/cm$^2$). Under this condition, MMP-1, tissue inhibitor of metalloproteinase (TIMP)-1, the endogenous inhibitor of MMP-1, and procollagen and laminin total RNA were extracted and RT-PCR were performed to evaluate the changes of these gene.

UVB induced MMP-1 but suppressed TIMP-1, procollagen, and laminin mRNA expressions. These changes were prevented by both doses of CDP. In conclusion, CDP may be used as an effective component in cosmetics through effectively prevents UVB-induced MMP-1 gene expression, which may be due to increased the expression of the counteract enzyme TIMP-1 thereby increasing extracellular matrix proteins gene expression.

doi:10.1016/j.toxlet.2010.03.827

**P301-002**

**A new alternative method to the Draize eye test for the assessment of the eye irritation potential of chemicals by using HCE-T cell**

S.A. Cho, S. An, H.K. Kim, T.R. Lee

*Amorepacific Corporation R&D Center, Republic of Korea*

Using HCE-T (human corneal cell line) cells, we developed a new alternative method to assess the eye irritating potential of chemical. We exposed the 18 chemicals for 1 h to HCE-T cells as an endpoint of eye irritation potential with concentration of 5%, 0.5% and 0.05% and measured the cell viability (CV) of chemicals. Using the cell viability at 5% and 0.5% or 5% and 0.05%, we developed the criteria of eye irritation potential (eye irritation level 1–3) and classified the eye irritation level of 18 chemicals. We assessed the correlation of the data with the data of Draize eye test at 10% concentration (we use the in vivo data of ECETOC data bank and also divided the