SAIB

54th Annual Meeting Agentine Society for Biochemistry and Molecular Biology

LIV Reunion Anual Sociedad Argentina de Investigación en Bioquímica y Biología Molecular

CONICET

FONCYT
FONDO PARA LA INVESTIGACIÓN CIENTÍFICA Y TECNOLÓGICA

AGENCIA
NACIONAL DE PROMOCIÓN CIENTÍFICA Y TECNOLÓGICA

BIOCELL 42 (suppl. 4), 2018
ISSN 1667-5746 (online version)

BIOCELL 42 (suppl. 4), 2018
ISSN 1667-5746 (online version)

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BIOCELL 42 (suppl. 4), 2018
ISSN 1667-5746 (online version)

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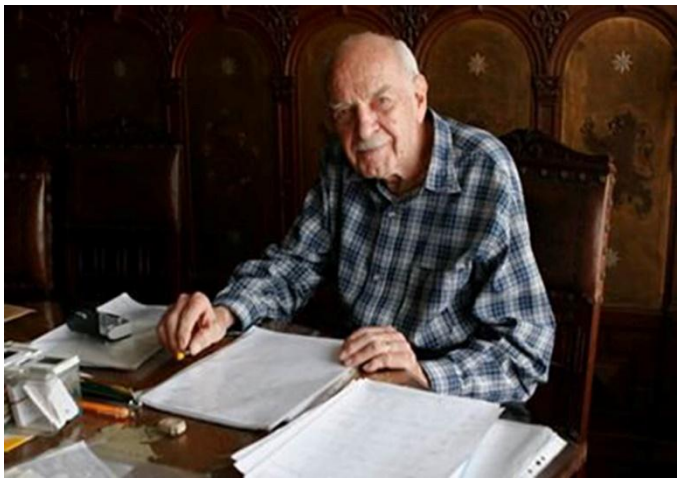
BIOCELL 42 (suppl. 4), 2018
ISSN 1667-5746 (online version)

IN MEMORIAM OF RODOLFO R. BRENNER



Rodolfo R. Brenner, professor emeritus at the National University of La Plata and founding director of the Institute for Biochemical Research of La Plata, died on 3rd July 2018. He was an illustrious scientist and teacher of many generations of biochemists, with a distinguished career for his important discoveries in the field of lipid biochemistry.

He was born on 17th July 1922 in Banfield, Province of Buenos Aires, Argentina. As an outstanding student, he graduated at the Colegio Nacional de Buenos Aires in 1940 winning three gold medals due to his academic achievements. In 1946 he graduated as Doctor in Chemistry at the School of Exact, Physical and Natural Sciences (FCEFyN), of the University of Buenos Aires (UBA), obtaining another gold medal as best graduate. He had his first contact with lipids by means of his doctoral thesis 'Chemical composition of Argentinian olive oils', directed by Prof. Dr. Pedro Cattaneo.

During 1946 and 1954 he worked for the Department of Bromatology and Industrial Analysis of FCEFyN, first as a Graduate Assistant and then as an authorized Professor. At the same time, he was in charge of the Section of Industrial Toxicology at the Institute of Medical-Technological Investigations and at the Institute of Public Health. In this first period he studied the composition of lipids of several freshwater fish, a subject in which he directed five doctoral theses and published a dozen of original papers, mainly in the *Annals of the Argentine Chemical Association* and in *Industry & Chemist*.

In 1954 he obtained a postdoctoral fellowship of the British Council to work on 'Chemistry and Biochemistry of Lipids' with Professor John A. Lovern at the Torry Research Institute of Aberdeen in Scotland. Upon his return, he obtained by competitive examination the post of Head Professor of the Department of Biochemistry of the School of Medical Sciences until the year 1988. Almost from scratch, he created a research group in this Department which in the mid 1960s reached wide international renown, in special because of his works on biosynthesis of polyunsaturated fatty acids. In 1961, when the career of scientific investigator of the National Scientific and Technical Research Council (CONICET) was created, Dr. Brenner was accepted as Independent Investigator, and after subsequent promotions he became Superior Investigator in 1973. Being a prolific investigator, he directed 45 doctoral theses. He was the author of over 300 scientific works published in national and international journals, as well as many other communications presented at different conferences and scientific meetings. He lectured over 150 conferences in different countries of America, Europe and Asia.

In recognition of his work and career, he received more than 30 awards, among which we can highlight: Award of FundaciónCampomar in 1972; Herrero Ducloux Award of the National Academy of Exact, Physical and Natural Sciences in 1974, Konex Prize granted to the best 5 biochemists of Argentina in 1983; Gold Medal "G. Burns and Von Euler" granted in London in 1985; Awards "Alfredo Sordelli" in 1985 and "JJ Kyle" in 1990 of the Argentine Chemical Association; Supelco AOCS Research Award of the American Oil Chemists' Society in Baltimore in 1990; TWAS 2001 Award in Basic Medical Sciences of the Academy of Sciences of the Third World in New Delhi, India, 2002; 2009 Houssay Career Award in the area of Chemistry, Biochemistry and Molecular Biology in Buenos Aires, 2010; and the Distinguished Investigator of Argentine Nation, also in 2010. He was honorary member of the Society of Biology of Tucumán from 1987, of the Argentine Society of Biochemical Investigations (SAIB) from 1990, and of the Argentine Society of Biophysics (SAB) also in 1990.

He was Senior Investigator Emeritus of CONICET and Head Professor Emeritus of UNLP. He held the position of Established Academic of the National Academy of Exact, Physical and Natural Sciences, of the National Academy of Sciences of Buenos Aires, and of the National Academy of Pharmacy and Biochemistry, as well as the Medicine Academy of Córdoba, Argentina.

It is worth mentioning his productive role in the management and promotion of science and university teaching. In 1965, together with Drs. Luis F. Leloir, Andrés Stoppani and Federico Cumar created the Argentine Society of Biochemical Research (SAIB),

BIOCELL 42 (suppl. 4), 2018
ISSN 1667-5746 (online version)

being its President in the period 1971-72. He was Counselling Director of CONICET, Adviser and Substitute Dean of the School of Medical Sciences, UNLP, and member of several scientific and academic committees of CONICET, UNLP, UBA and the Committee of Scientific Research (CIC) of the Province of Buenos Aires, Argentina. He was the South American representative at the Steering Committee of the International Conferences on the Bioscience of Lipids (ICBL). Among his achievements and works, one of the most important ones was the creation (1982) and subsequent consolidation of the Institute of Biochemical Research of La Plata (INIBIOLP), of which he was the Director until 2003. Since 2015, this institution is called "Prof. Dr. Rodolfo R. Brenner" in recognition of his career.

He will remain for ever in the memory of all of us who had the privilege of knowing him and receiving his teaching.

Horacio A. Garda

BIOCELL 42 (suppl. 4), 2018
ISSN 1667-5746 (online version)

significantly greater than that of the control. Particularly, fish treated with H16 showed the highest SGR and K, and the lowest FCR, thus its application in aquaculture could be promising.

BT-P04
NOVEL RECOMBINANT ANTIGENS OF *Leishmania* (*Viannia*) *braziliensis* FOR LEISHMANIASIS IMMUNODIAGNOSIS

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Leishmania (Viannia) braziliensis is the main causative agent of American tegumentary leishmaniasis (ATL) in Argentina. Despite of the development of molecular methods, nowadays its diagnosis remains as a challenge. In this work we applied seroproteomic approaches for the selection and identification of *L. (V.) braziliensis* antigen candidates, for sensitive and specific immunodiagnoses of this endemic disease. By two dimensional Western blots of amastigote extract of *L. (V). braziliensis* , three antigen candidates were selected for their differential reactivity against sera from patients with ATL and non-reactive with Chagas disease, which cross-reaction have been previously reported. They were identified by Mass Spectrometry and Fingerprinting analysis. One of them was overexpressed in *Escherichia coli*, purified and used for serological tests. To analyze their immunological performance, sera from ATL patients and 52 from non ATL cases were included in this study. The antigen selected was termed HAT-LbAg1 (50.2 kDa, IP 5.2). The sensitivity - specificity of this antigen immunoblotting and ELISA were 80.5 - 90.5% and 70.7- 72, 88% respectively. With this molecular methods of identification of new candidates to ATL diagnosis, the cross-reaction with Chagas disease was reduced, increasing the specificity values of the immunoblotting technique. On the other hand, the sensitivity percentage can be improved by the combination with other candidates to diagnose true positives cases of ATL. Further studies are necessary to know the performance of HAT-LbAg1 and the other candidates in their application in novel immunological techniques.

BT-P05
IMMOBILIZATION AND CHARACTERIZATION OF G51 KERATINOLYTIC ENZYMES WITH POTENTIAL FOR WOOL PROCESSING

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Bacillus sp. G51 produces extracellular keratinases with potential for shrink-proofing of wool. Keratinases are proteases with autolytic activity which are restringing their industrial application in free form. Immobilization could contribute to a better control of their catalytic activity. Our aim was to immobilize and characterize G51 extracellular enzymes by cross-linking of enzyme aggregates (CLEA). G51 culture supernatant was used for CLEA with glutaraldehyde as cross-linking agent. G51 enzyme units (EU)/glutaraldehyde ratio was optimized, obtaining the best recovery of the proteolytic activity with the lowest ratio tested (8.4% with 3.5 EU/mlglu25%). CLEA-G51 thermal stability was higher (91 and 71% of residual activity after 1 h at 50 and 60°C, respectively) than that of free enzymes (40 and 5% residual activity under the same conditions). After 4 month-storage at room temperature, the free and immobilized enzymes kept 20 and 80% of residual proteolytic activity, respectively. This improvement of storage stability suggests that immobilization could prevent G51-keratinase autolysis and loss of activity. More than 60% of the proteolytic activity was preserved in the 3rd use, and it gradually diminished to 30% after seven re-uses. CLEA-G51 enzymes retained its wool keratinolytic activity (0.06 EU/ml), which is essential for wool shrink-proofing. CLEA-G51 operational and storage advantages could be valuable for industrial applications. Particularly, increased molecular size of immobilized G51 keratinases could avoid their diffusion into the wool fiber, allowing wool treatments with higher enzyme concentrations and without excessive degradation.

BT-P06
ENGINEERED BACTERIAL OUTER MEMBRANE VESICLES AS AN EXPERIMENTAL VACCINE AGAINST CHAGAS DISEASE

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Outer membrane vesicles (OMVs) are nanoparticles released from bacteria. Three of the most promising characteristics of OMVs are their high adjuvant capacity, their safety and the possibility of generating genetically engineered vesicles. Therefore, the utilization of OMVs as vaccines offers promising potential against a wide range of diseases. With this in mind we proposed to evaluate the potential role of engineered OMVs carrying different *Trypanosoma cruzi* antigens as an experimental immunogen against Chagas disease. We selected two antigens which have been extensively evaluated in vaccination models against *T. cruzi*, Tc24 and Tc52. The rational of selecting these antigens is that as a first step we propose to elucidate the advantage of using OMVs as carriers of parasite antigens and evaluate their adjuvant properties. As the first time reported, we were able to obtain recombinant OMVs with the selected *T. cruzi* antigens expressed on the outside of the vesicles as well as packaged within their lumen. These rOMVs were preliminarily evaluated in a murine prime-boot-challenge scheme for Chagas disease. During the vaccination stage, a slight increase in IFN-γ production was detected in immunized animals. In the challenge phase, a mild decrease in parasite load in vaccinated animals versus control groups could be detected. Several factors still need to be tested in order to optimize the use of rOMVs as a possible vaccine. In summary, the results so far obtained indicate that genetically designed OMVs could be a possible path for the development of novel strategies for trypanosomatids immunization. Funding: Fundación Bunge y Born y Fundación Fiorini.