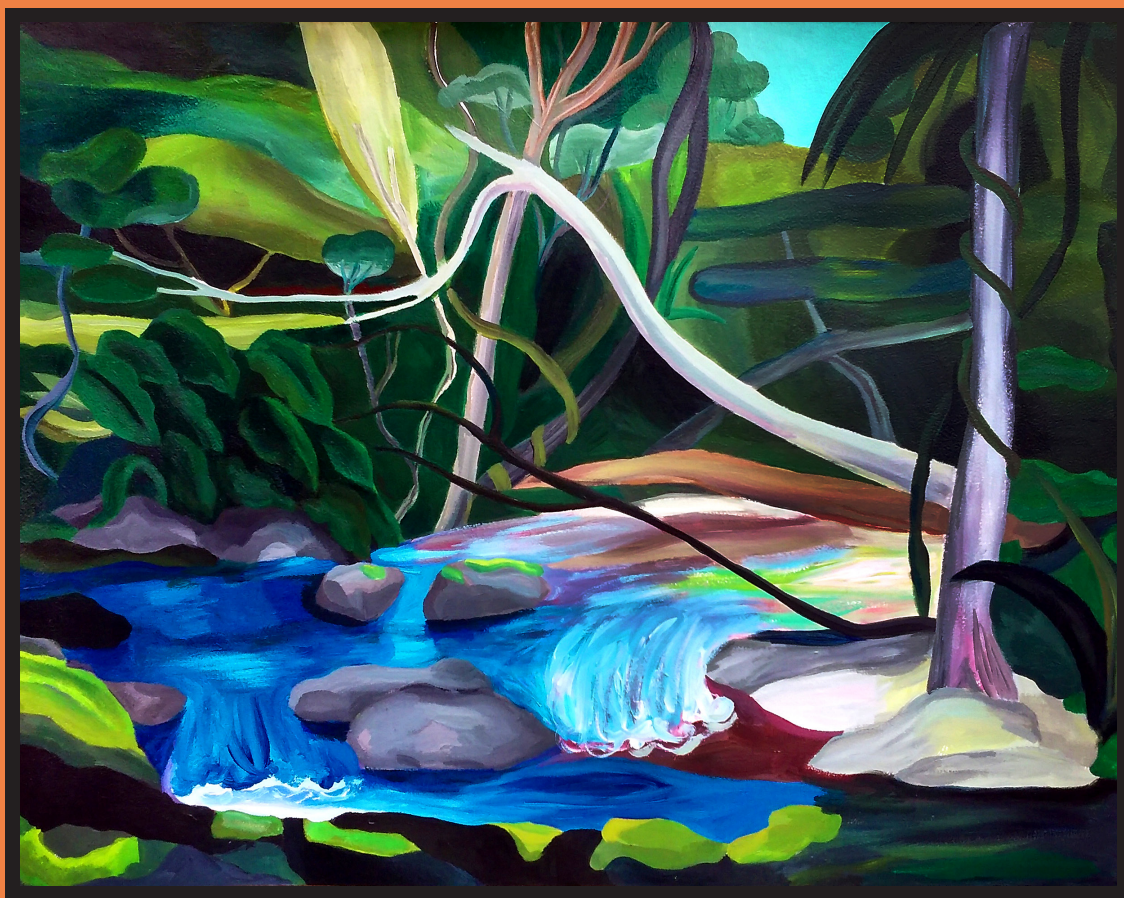


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# **REUNIÓN CONJUNTA SAIC SAB AAFE AACYTAL 2023**

**LXVIII REUNIÓN ANUAL DE LA  
SOCIEDAD ARGENTINA DE INVESTIGACIÓN CLÍNICA  
(SAIC)**

**XXV JORNADAS ANUALES DE LA SOCIEDAD  
ARGENTINA DE BIOLOGÍA  
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**LV REUNIÓN ANUAL DE LA ASOCIACIÓN  
ARGENTINA DE FARMACOLOGÍA EXPERIMENTAL  
(AAFE)**

**VIII REUNIÓN CIENTÍFICA REGIONAL DE LA  
ASOCIACIÓN ARGENTINA DE CIENCIA Y  
TECNOLOGÍA DE ANIMALES DE LABORATORIO  
(AACYTAL)**

15-17 de noviembre de 2023  
Hotel 13 de Julio – Mar del Plata

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# **JOINT MEETING SAIC SAB AAFE AACyTAL 2023**

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13 de Julio Hotel – Mar del Plata

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the control. Moreover, alterations in cellular morphology indicated a loss of cytoplasm and the formation of apoptotic bodies. These findings collectively point to the potential of this complex as an effective agent against cancer cells by inducing oxidative stress (to which cancer cells are more susceptible) and triggering apoptosis.

**467. 203. ANTIOXIDANT ACTIVITY OF HALAMPHORA COFFEAIFORMIS: A FUCOXANTHIN-PRODUCING MICROALGA WITH POTENTIAL HEALTH BENEFITS**

Ana V. Bauchi<sup>1,2</sup>, M. Alejandra Sequeira<sup>3,4</sup>, M. Belén Farao<sup>n</sup><sup>3,4</sup>, M. Cecilia Damiani<sup>1,2</sup>, M. Cecilia Popovich<sup>1,2,5</sup>

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Fucoxanthin (Fx) is a major photosynthetic light-harvesting carotenoid found in diatoms and brown seaweeds, presenting numerous beneficial properties for health, such as antioxidant, hypoglycemic, antimicrobial, anti-obesity, anti-aging anti-metastatic, among others. We carried out previous studies with cultures of the marine diatom *Halamphora coffeaeformis*, isolated from the Bahía Blanca Estuary (Argentina), evidencing a significant Fx production. The aim of this work was to evaluate the antioxidant capacity of *H. coffeaeformis* extracts by implementing an optimized protocol for 2,2'-Azino-bis(3-ethylbenzthiazoline-6-sulfonic acid) diammonium salt radical (ABTS<sup>•+</sup>) bleaching test. Cultures were performed in duplicate in Erlenmeyers with f/2 medium at 33‰, and with a light:dark photoperiod of 12 h:12 h, adapted to a photosynthetically active radiation intensity of 100 µE m<sup>-2</sup> s<sup>-1</sup>. Antioxidant activity was determined by a Jasco V-630 UV-Vis spectrophotometer by ABTS<sup>•+</sup> scavenging activity measurement after the addition of Fx enriched culture extracts. The obtained results showed that ABTS<sup>•+</sup> discoloration assay is an efficient antioxidant activity indicator of *H. coffeaeformis*'s extracts, demonstrating for concentrations less than 0,01 mg mL<sup>-1</sup>, similar ABTS<sup>•+</sup> bleaching results than ascorbic acid, used as a reference positive control. Fx and associated pigment production during the stationary growth phase in cultures were evidenced by HPLC chromatography. *H. coffeaeformis* cultures under studied conditions showed strong antioxidant properties, with the effective concentration for 50% scavenging (EC<sub>50</sub>) of ABTS<sup>•+</sup> being 0,02 mg mL<sup>-1</sup>. In conclusion, the obtained results suggested that *H. coffeaeformis* is a sustainable Fx source, encouraging future studies of its bioactive properties in health.

**468. 323. ANTIDIABETIC POTENTIAL OF EXTRACTS FROM DIFFERENT VARIETIES OF SORGHUM**

Ana Paula Escobar<sup>a</sup>, Ana Melissa Gonzalez Miragliotta<sup>a,b</sup>, Gonzalo Adrián Ojeda<sup>a,b</sup>, Romina Belén Gonzalez<sup>a,b</sup>, Ana María Torres<sup>a,b</sup>, María Victoria Aguirre<sup>c</sup>

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Type 2 diabetes mellitus is a chronic condition that covers approximately 90-95% of cases. In the current market, there is a wide variety of drugs for its treatment. In recent years there has been a growing interest in alternative approaches such as the use of natural products. There are references about the usefulness of sorghum

as a hypoglycemic agent referred to the species cultivated in other regions of the world, but the study of the species adapted to our region (NEA) is of the utmost importance since it is known that they can vary their chemical composition due to edaphoclimatological influences. The objective of this work was to evaluate the hypoglycemic potential of sorghum by measuring the inhibitory capacity of its extracts on the enzyme alpha glucosidase (APG) responsible for glucose absorption at the intestinal level. Samples of red and white variety sorghum were used with 3 different granulometries for each case, 500µm sieve (ST500), 500µm flour (H500) and 177µm fine flour (HF177). The material was macerated for 48h in a previously optimized mixture of solvents, filtered and dried in a rotatory evaporator. The in vitro APG inhibition assay was performed in a microplate reader using extracts (0.02mg/ml) and acarbose (1mg/ml) as positive control. Final results were expressed as the ratio of inhibition relative to acarbose. It was observed that all the extracts were more active than the positive control (I<sub>r</sub>>1). However, the red variety presented greater inhibitory capacity than the white variety. For red sorghum, the most active extract was ST500 (I<sub>r</sub>=75.68) followed by H500 (I<sub>r</sub>= 56.31). In the case of white sorghum, the extract that was most active was ST500 (I<sub>r</sub>=46.96) but lower than all the cases of red sorghum. Our findings show that there are significant differences in the hypoglycemic potential of sorghum extracts according to the variety and size of the material used.

**469. 324. INTERACTION OF A SUNFLOWER MANNOSE-BINDING LECTIN WITH INFLUENZA VIRUS**

Radicioni M<sup>1,4</sup>, Del Rio M<sup>1,4</sup>, Cagnoni A<sup>2,4</sup>, Lerman A<sup>3</sup>, Cimmino C<sup>3</sup>, Silva A<sup>3</sup>, Uez O<sup>3</sup>, Mariño K<sup>2,4</sup>, Regente M<sup>1,4</sup>.

<sup>1</sup>Instituto de Investigaciones Biológicas - FCEyN - UNMdP

<sup>2</sup>Laboratorio de Glicómica Funcional y Molecular, Instituto de Biología y Medicina Experimental

<sup>3</sup>Instituto Nacional de Epidemiología "Dr. Juan Héctor Jara" - Mar del Plata

<sup>4</sup>CONICET

Influenza virus circulates in the world causing disease in humans. To establish an infection, the viral genome must replicate in the epithelial cells of the upper respiratory tract. In our laboratory, a mannose-binding jacalin-like lectin of sunflower seeds, Helja, was isolated and identified. The ability of Helja to bind glycoconjugates could be of biomedical interest as an antipathogenic agent. Previous evidence obtained by hemagglutination inhibition, ligand-blot, and competition assays on mannose-agarose affinity matrices, suggests the binding of Helja to Influenza virus particles. The aim of this work was to analyze the interaction of Helja with different types of Influenza viruses through biophysical assays and to evaluate its ability to inhibit viral binding to buccal epithelial host cells (BECs). Through solid phase assays, biotinylated Helja showed the ability to bind to all the immobilized viral particles analyzed, displaying greater affinity for Influenza B Yamagata. Viral particles labeled with FITC and following by fluorescence confocal microscopy were used to evaluate the effect of the lectin on the virus binding to BECs. We observed that the preincubation with Helja decreases the viral interaction to the host cells for all the tested strains, showing greater inhibition for the Influenza B Yamagata particles. Our results indicate that Helja interacts differentially with the envelope glycoproteins of different Influenza A and B strains, suggesting its capacity as an effective tool to prevent virus entry and replication in host cells. Future studies could contribute to the design of a new antiviral agent based on the use of Helja as a bioactive compound.

**470. 347. SUNFLOWER HULLS EXTRACTS EXHIBITS ANTI-FUNGAL PROPERTIES AGAINST *C. albicans***

Guadalupe Rodríguez, Marianela Del Rio, Melisa Radicioni, Guadalupe Martínez, Mariana Regente.

Instituto de Investigaciones Biológicas-Universidad Nacional de Mar del Plata (IIB-UNMdP), CONICET

*Candida albicans* is an opportunistic fungus causing superficial and systemic infections. The search for safe and efficient antifungal compounds is a challenge for researchers. Sunflower husk (SH) is an agroindustrial by-product rich in phenolic compounds with bioac-