



TUCUMAN BIOLOGY ASSOCIATION
(Asociación de Biología de Tucumán)

Abstracts from the
XXIV ANNUAL SCIENTIFIC MEETING

November 8 – 10, 2007
Tafí del Valle, Tucumán, Argentina

The abstracts have been revised and evaluated by the Scientific Committee
of the Tucuman Biology Association

153.
ANTIMICROBIAL ACTIVITY OF EXTRACTS FROM
***Coronopus didymus* Sm. (Brassicaceae)**

Lizarraga E, Allori CG de, Castillo MC de, Catalán C.
Universidad Nacional de Tucumán.

C. didymus is a herb known as “quimpe” used in popular medicine for the treatment of several diseases. Extracts from the aerial parts were obtained by Soxhlet using solvents of increasing polarity. Hexane, chloroform and ethyl acetate extracts were dissolved in ethanol 96% and the methanol fraction was dissolved in distilled water. The assays were performed against the human pathogenic strains listed below. The Minimum Inhibitory Concentration (MIC) of the extracts was determined following CLSI guideless. Hexane and methanol extracts showed low activity (MIC 30 mg/ml and >30 mg/ml). The MIC of chloroform and ethyl acetate extracts are summarized in the table below.

Microorganism	MIC mg/ml Chloroform	MIC mg/ml Ethyl acetate
<i>E. coli</i> ATCC 35218	4.75	5
<i>E. coli</i> ATCC 25922	4.75	5
<i>S. aureus</i> ATCC 29213	4	4.25
<i>S. aureus</i> ATCC 25923	4.75	4.5
<i>E. faecalis</i> ATCC 29212	4	4
<i>P. aeruginosa</i> ATCC 27853	4	4

Our results indicate that *C. didymus* exhibits only a moderate activity against the human pathogenic bacteria tested.

154.
DETECTION OF ANTIOXIDANT ACTIVITY IN
BREASTMILK FROM NEONATES' MOTHERS

Petros C¹, Zampini IC², Rojo HP¹, Isla MF².

¹Facultad de Medicina. ²Facultad de Ciencias Naturales e Instituto Miguel Lillo. UNT. Fundación Miguel Lillo. Tucumán, Argentina.
E-mail: heberojo@gmail.com

Maternal milk possesses a complex and variable mix of chemical components, many of which may have antioxidant activity. The objective of this study is to determine the antioxidant activity of samples taken from newborn babies' mothers. Milk samples collected with the previous consent of the mothers were taken to the laboratory and refrigerated. They were centrifuged at 2000 rpm for 10 min and a watery extract was obtained after separating the fat layer. The protein content was determined (Lowry *et al.*) and results were expressed in casein equivalents. The antioxidant activity was determined in qualitative terms. Samples were seeded in TLC and covered with 0.09% agar containing the radical ABTS•+ (2,2'-azinobis-3-ethylbenzothiazoline-6 sulfonic acid). Besides, colorimeter determination was made by measuring its absorption at 734 nm of ABTS•+ control and that of the sample with ABTS•+. Antioxidant activity was found in all samples examined (n=24). Conclusion: Antioxidant activity is one of the numerous benefits of maternal milk.

155.
SIMULATION OF THE PRODUCTION OF FRUCTO-
OLIGOSACCHARIDES

Salinas M^{1,2}, Perotti N^{1,2}

¹Universidad Nacional de Tucumán. FACEyT. ²PROIMI-CONICET. Av. Belgrano y Pje. Caseros, (4000) Tucumán, Argentina. E-mail: msalinas@proimi.org.ar

Introduction: Fructooligosaccharides (FOS) are considered both alimentary additives and nutraceuticals. Several studies have demonstrated their prebiotic properties. A simulation of FOS production was made. Kinetics parameters of FOS growth and synthesis were studied.

Objective: The objective of this work was to simulate FOS production in several initial conditions using a mathematical model developed by the authors.

Materials and Methods: Experimental data were obtained using the strain *Aureobasidium* sp. The bioproduction conditions and the details of the model were previously reported by the authors. The software used for the simulation was Matlab 7.

Results and Conclusions: The simulation shows the relationship between the sugars at different initial concentrations. Sucrose rapidly disappears, enabling FOS and glucose formation. An increase in sucrose concentration resulted in an increase in FOS production. This will contribute to the study of the production of this prebiotic.

156.
PREVALENCE OF INTESTINAL PARASITISM IN
SCHOOLCHILDREN FROM FAMAILLÁ CITY, TUCUMÁN
PROVINCE, ARGENTINA

Dib JR, Oquilla J del V, Lazarte SG*.

Cátedra de Parasitología, Instituto de Microbiología, Facultad de Bioquímica, Química y Farmacia, Universidad Nacional de Tucumán, Argentina. *E-mail: tafisl@hotmail.com

The prevalence of intestinal parasites was investigated in children attending a rural primary school in Famaillá city, Tucumán province, Argentina. Stool specimens were collected from 149 schoolchildren. The prevalence rate of intestinal parasite infections was 86.6%. No significant age or sex differences were observed in parasite distribution. *Blastocystis hominis* was the most commonly found protozoan parasite (54.4%), followed by *Entamoeba coli* (35.6%), *Giardia lamblia* (24.8%) and others (16.7%). *Enterobius vermicularis* was the most prevalent intestinal helminth (27.5%) followed by *Ascaris lumbricoides* (20.8%), *Tricuiris trichiura* (12.8%) and others (5.4%).

Polyparasitism was observed in most of the patients (62.4%); protozoan infections prevailed over helminthic infections.

These results show high rates of parasitism in Famaillá schoolchildren that would be associated with socioeconomic factors and poor environmental sanitation conditions in the area.