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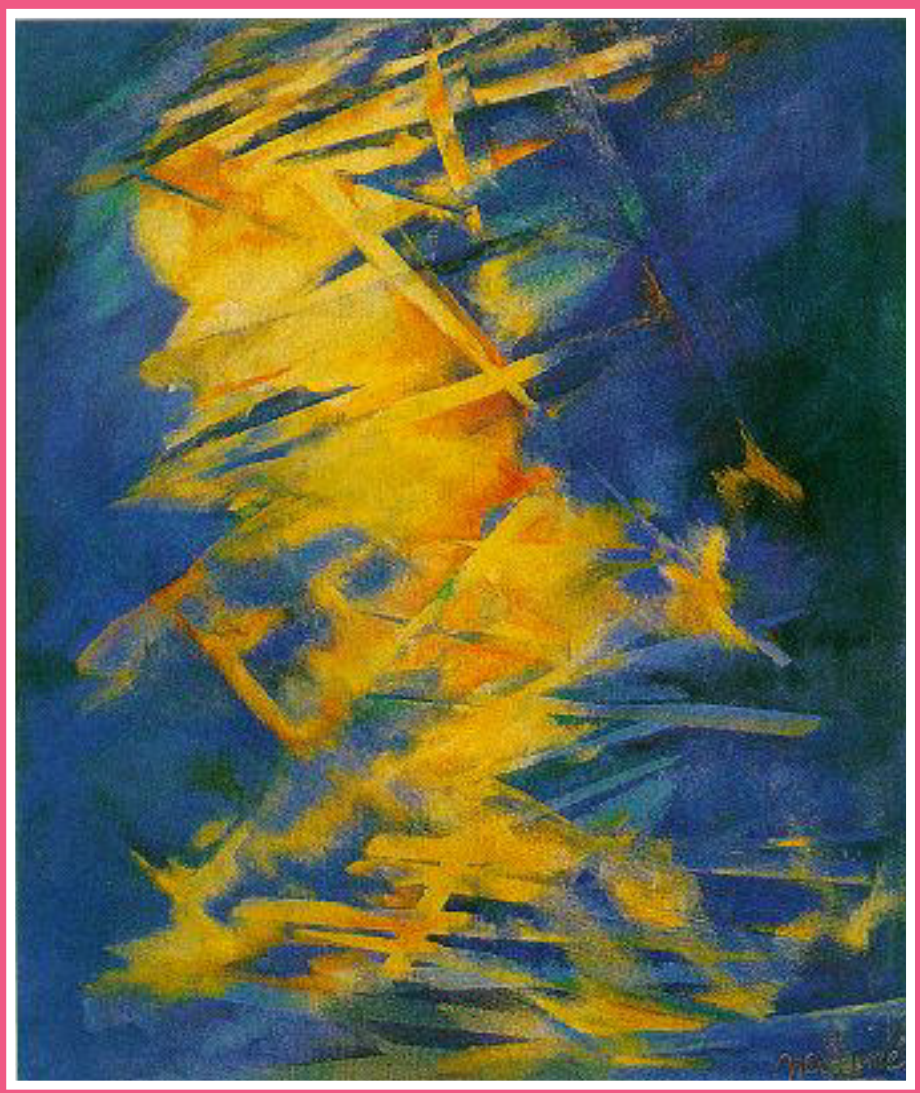

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La Tapa (Ver p. IV)
Imagen ígnea, 1996.
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REUNIÓN CONJUNTA DE SOCIEDADES DE BIOCIENCIAS

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LIII REUNIÓN ANUAL DE LA SOCIEDAD ARGENTINA DE INVESTIGACIÓN BIOQUÍMICA Y BIOLOGÍA MOLECULAR (SAIB)

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13-17 de noviembre de 2017
Palais Rouge– Buenos Aires

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JOINT MEETING OF BIOSCIENCE SOCIETIES

LXII ANNUAL MEETING OF ARGENTINE SOCIETY OF CLINICAL INVESTIGATION (SAIC)

LIII ANNUAL MEETING OF ARGENTINE SOCIETY OF BIOCHEMISTRY AND MOLECULAR BIOLOGY (SAIB)

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XLIX ANNUAL MEETING OF ARGENTINE SOCIETY OF EXPERIMENTAL PHARMACOLOGY (SAFE)

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November 13 -17, 2017
Palais Rouge– Buenos Aires

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LA TAPA

María Esther Gené, **Imagen ígnea**, 1996.

Acrílico sobre tela, 110 x 95 cm. Cortesía de la Comisión Nacional de Energía Atómica, Predio TANDAR, Centro Atómico Constituyentes. Presidente de la Comisión Organizadora de la Exposición Permanente: Dr. A.J.G.Maroto.

María Esther Gené nació en Buenos Aires. Cursó Historia del Arte y Estética con Blanca Pastor y Nelly Perazo. Se inició en el taller de Centa Bertier y continuó su formación con Miguel Dávila. Participó del grupo de investigación plástica que dirigió Emilio Renart. Integró el Grupo Gen y formó el Grupo Fusión. Realizó numerosas exposiciones colectivas e individuales (Museos Municipal de Bellas Artes de Luján, Fernán Félix de Amador, de Arte Moderno de la Ciudad de Buenos Aires, Fundaciones San Telmo y Banco Mayo, Fundación Andreani, Patio Bullrich, Galería Kristel K., Salón ICCED de Pintura, entre otros). Sus obras se encuentran en colecciones privadas de Argentina, México, Alemania, España, Uruguay y EE.UU.

[1] Comisión Nacional de Energía Atómica. Artistas Plásticos con la CIENCIA, Centro Atómico Constituyentes, Predio TANDAR, Buenos Aires, 1999; En: *http://www2.cnea.gov.ar/xxi/artistas/artistasplasticos.htm*

dad Nacional de Córdoba. Córdoba, Argentina. (2) Laboratorio de Comportamiento Reproductivo, Escuela de Medicina Veterinaria y Zootecnia, Universidad Autónoma de Tlaxcala. Tlaxcala, México.

Continuing with the studies on aphrodisiac plants, we worked in this occasion with *Satureja parvifolia* (Phil.) Epling (Lamiaceae). Very well known, especially in the north of Argentina, the "muña-muña" is reputed in the ethnomedicine as an aphrodisiac. So far, it lacks scientific studies related to this effect. The objective of the present work was to evaluate the infusion of the species in the Fictive Ejaculation Model. It is known that the ejaculatory response is regulated by the CNS at both, the spinal and brain levels. This model allows the experiment to become independent of the brain to evaluate the effect of a particular substance on the Spinal Generator of Ejaculation. We worked with male Wistar rats trained in sexual behavior until being considered sexually expert. The animals were divided according to the Latency of Ejaculation (LE) in premature (those with LE ≤ 10 minutes) and intermediate (LE ≤ 20 minutes). Premature rats were selected. They were anesthetized and submitted to surgery to section the spinal cord at the level of the T6 vertebra, above the Spinal Generator. The animals were divided into 3 groups, of three animals each. Physiological solution (Control Group) or infusion of *S. parvifolia* (Treatment groups) were administered intravenously in doses of 10 and 30 µg/kg. The results showed that the infusion at 10 µg/kg facilitates ejaculation in premature rats producing an increase in the Number of Discharges (ND, number of contractions of the bulbospongiosus muscles) ($P<0.01$). This important parameter evaluates ejaculatory potency, so it can be said that the infusion increases it. It is very interesting to observe that at higher concentrations the effect caused is a decrease in ND. These results could be indicative of a dual effect according to the concentration. More experiments should be performed to determine whether it is possible to associate the concentration with the ability to slow down ejaculation in premature animals.

Keywords: *Satureja parvifolia*, Spinalization, Aphrodisiac, Premature ejaculators.

(261) **FLAVONOIDS AS ALLOSTERIC MODULATORS OF ALPHA7 NICOTINIC RECEPTOR**

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Ubiquitously present in plants, flavonoids are a class of polyphenolic compounds comprising a benzopyrone moiety. These compounds have been reported to decline incidence rate and development of several neurodegenerative disorders, such as Alzheimer's and Parkinson's diseases. Two flavonoids, genistein and quercetin, have been also described as type I positive allosteric modulators (PAMs) of α7 nicotinic acetylcholine receptor, which increase the amplitude of macroscopic responses evoked by ACh without changing the desensitization rate. The molecular mechanism underlying these macroscopic effects remains unknown. Our main objective is to unravel the molecular basis of flavonoid allosteric potentiation of α7 at the single-channel level. Receptors were expressed in mammalian cells and receptor function was evaluated by patch-clamp recordings. We analyzed the concentration-dependent effects of a prototype flavonoid for each class: quercetin as flavones, genistein as isoflavones and 5,7-dihydroxy-4-phenylcoumarin as neoflavonoids. We here reported for the first time that neoflavonoids act as PAMs of α7. All flavonoids increased the mean open channel lifetime and the mean burst duration of α7, although the magnitude of the change differed among the different compounds. In order to define the structural and functional determinants of potentiation, we evaluated flavonoid potentiation in an α7 receptor carrying a quintuple mutation at the transmembrane region that makes it insensitive to potentiation by type II PAMs and in a chimeric α7-5HT_3A receptor with the extracellular domain of α7 and the transmembrane region of 5-HT_3A. Statistically significance differences were established at p-values<0.05. We conclude that, in addition to the well-known effects as antioxidants, the unique properties of flavonoids as natural α7 PAMs make them candidate drugs for the treatment of different neurodegenerative disorders.

Keywords: flavonoids, alpha 7 nicotinic receptor, positive allosteric modulators, patch-clamp.

(690) **INTERACTION BETWEEN HYPOTHYROIDISM AND THE INFUSIONS OF *Melissa officinalis* AND *Bahuinia forficata* IN RAT HEARTS EXPOSED TO ISCHEMIA-REPERFUSION**

Matías Bayley (1), María Lara Lazarte (1), Lucía Clavellino (1), María Inés Ragone (1,2), Alicia E. Consolini (1)
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Drinking infusions of *Melissa officinalis* ("melisa", *Mel*) or *Bahuinia forficata* ("pezuña de vaca*", Pzñ*) is contraindicated in hypothyroid patients because they potentiate the endocrinological alteration. The aim of this work was to evaluate whether these plants have any effect on the postischemic cardiac stunning in interaction with the hypothyroidism (HypoT). HypoT was induced by drinking methimazole (0.02%) for 15 days. Euthyroid (EuT) and HypoT rats received infusion of *Mel* or *Pzñ* (5% w/v) in drinking water during 7 days. Isolated hearts were perfused inside a calorimeter at 37°C to measure left ventricular pressure (LVP, in mmHg) and total heat rate (Ht, in $mW.g^{-1}$) during exposition to moderate I/R (20 minI/ 45min R). **In** EuT hearts: *Mel* improved the postischemic contractile recovery (PICR) up to 105.0 ± 16.4 % of initial P (Pi) vs 69.4 ± 6.0% of Pi in non-treated C-EuT ($p<0.05$, n=6-7) and muscle economy (Eco= P/Ht) at 15 min R (7.9 ± 1.9 % vs 4.1 ± 0.8 % in C-EuT, $p<0.05$) without changing diastolic tone. *Pzñ* slightly reduced PICR to 40.4 ± 6.7% of Pi (n=4) without changing Eco, but with a significative increase in the diastolic tone. In HypoT hearts: *Mel* and *Pzñ* drastically reduced the PICR (54.7 ± 3.3 % and 12.5 ± 5.3 % of Pi respectively vs 92.6 ± 5.2 % of Pi in non-treated HypoT (C-HypoT, $p<0.05$, n=5-4-5) and Eco (2.9 ± 0.4 % and 1.0 ± 0.7 % of initial, respectively, vs 5.1 ± 0.8 % in C-HypoT, $p<0.05$) with a significative diastolic contracture. The dysfunction induced by *Mel* in HypoT was reduced by perfusing cyclosporine-A (0.2 $\mu g.mL^{-1}$ Cys-A) before I/R, suggesting that the mPTP opening caused dysfunction.Results suggest that: a) *Mel* prevented the stunning in EuT ischemic hearts but increased dysfunction in HypoT hearts b) *Pzñ* worsened stunning in both, but more in HypoT than in EuT hearts. *Grant: UNLP X-795*.

Keywords: melisa, Bahuinia, ischemia-reperfusion, heart, stunning

(656) **NATIVE MEDICINAL VALERIAN PLANTS AND THEIR EFFECTS ON ACETYL AND BUTYRYL CHOLINESTERASES**

Carolina Marcucci (1), Natalia Colettis (1), Hernán Gerónimo Bach (2), Beatriz Graciela Varela (3), Rafael Alejandro Ricco (3), Damijan Knez (4), Marcelo Luis Wagner (3), Mariel Marder (1)
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It has been shown that acetylcholinesterase (AChE) activity is increased in patients with Alzheimer's disease (AD), whereas expression and concentration of butyrylcholinesterase (BChE) is compensatory and is increased. Three out of the four approved drugs for the treatment of AD are AChE inhibitors (donepezil/galantamine/rivastigmine); however, they present undesired side effects due to AChE inhibition in peripheral and autonomous nervous systems.