



Molecules of Life

FEBS3+ Meeting

organized by the Slovenian Biochemical Society,
Croatian Society of Biochemistry and Molecular Biology,
Hungarian Biochemical Society &
Serbian Biochemical Society

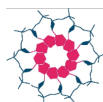
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11th Meeting of the Slovenian Biochemical Society

September 16-19, 2015
Portorož, Slovenia

Book of Abstracts

Book of Abstracts of the FEBS3+ Meeting “**Molecules of Life**” organized by the Slovenian Biochemical Society, Croatian Society of Biochemistry and Molecular Biology, Hungarian Biochemical Society & Serbian Biochemical Society



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Ibogaïne relaxes rat arteries: the role of endothelium

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Ibogaïne is a naturally occurring alkaloid isolated from the bark of the roots of the West African *Tabernanthe iboga* plant. It is well known for its anti-addictive effects. On the other hand, its pharmacology is quite complex, affecting many different neurotransmitter systems simultaneously. Ibogaïne binds to several types of receptors: 5-Hydroxytryptamine (5-HT), opioid, nicotinic and N-methyl-D-aspartate (NMDA) receptors, dopaminergic and 5-HT transporters and monoamine oxidase enzyme (MAO). Based on our previous study showing ibogaïne effects on ATP liberation (127 pM) from erythrocytes *in vitro*, we wanted to investigate direct pharmacological ibogaïne effects on aorta and mesenteric artery and to compare them with effects of ATP. Its effects were tested by isolated organ bath studies using aorta and mesenteric artery rings (with and without endothelium) isolated from Wistar rats. Aortic and mesenteric artery rings were precontracted with phenylephrine (10 µM). Ibogaïne (64.4 mM) produced a relaxation in the aortic as well as in mesenteric artery rings, in a similar way. Realaxation effects were followed in time (5, 10, 20, 30, and 60) and it was shown that ibogaïne effects are time-dependent. In addition, ibogaïne effects are also endothelium dependent since presence of endothelium facilitated relaxation. ATP (127 pM) induced relaxation in the aortic as well as in mesenteric artery rings, and this effect is completely endothelium-dependent. Taken together these findings suggest that ibogaïne affect smooth muscles directly. Additionally, relaxation is endothelium dependent (possibly is mediated *via* nitric oxide) and ATP-mediated.