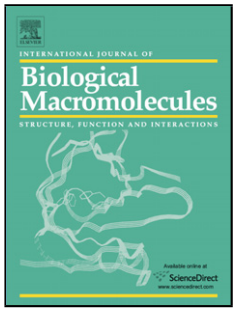

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<AT>Angiogenenic effects of BpLec, a C-type lectin isolated from *Bothrops pauloensis* snake venom

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<ABS-HEAD>Abstract

<ABS-P>The present work reports the effects of a C-type lectin (BpLec) isolated from *Bothrops pauloensis* snake venom upon *in vitro* and *in vivo* angiogenesis models. Initially, we noted that BpLec was not cytotoxic to endothelial cells (tEnd) in doses up to 40 µg/mL, but lower doses (2.5 µg/mL, 5 µg/mL, 10 µg/mL and 20 µg/mL) reduced tEnd cells adhesion to some extracellular matrix proteins and inhibited the *in vitro* vessel formation in Matrigel assay stimulated by bFGF. β-galactosides (D-lactose, N-acetyl-D-galactosamine and D-galactose) at 400 mM reversed the effect of BpLec on tEnd cells adhesion, whereas D-galactose (400 mM) partially reversed BpLec property of inhibiting vessel formation by tEnd cells in Matrigel. *In vivo* assays showed that BpLec increased hemoglobin content and capillary vessels number in polyether-polyurethane sponge discs subcutaneously implanted into dorsal skin mice. Additionally, BpLec also reduced collagen deposition and did not induce a pro-inflammatory response, as demonstrated by the decreased the secretion of some inflammatory cytokines, whereas myeloperoxidase (MPO) and N-acetylglucosaminidase (NAG) activities were not altered by BpLec. Taken together, our results indicate that BpLec might represent an interesting angiogenesis and inflammatory modulator that could also be used for searching possible therapeutic targets involved in these processes.
<KWD>Keywords: C-type lectin; *Bothrops pauloensis*; angiogenesis; inflammation.

<H1>1. Introduction
Lectins are proteins which recognize carbohydrates and are found in a varied plant and animal sources, including snake venoms, in which they are divided into true C-type lectins (or SVGaL) and C-type lectins-like [1, 2, 3]. Since carbohydrates participate in many molecular interactions, lectins have been implicated in biological processes and