

Inhibitory effects induced by isolated sulphated polysaccharides from the *Botryocladia occidentalis* red algae against snake venom PLA₂.

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In this article we investigated the snake venom PLA₂s neutralizing effect of novel sulfated polysaccharides (SP) from four red marine alga *Botryocladia occidentalis*, which is named as Bo S-1. This compound was purified from the semi purified sulfated polysaccharides using a HPLC ion exchange chromatography. BoS-1 has a molecular mass estimated around 20 kDa, whereas PLA₂ have approximately 15 kDa and we observed a structural interaction with a formation of heterodimeric complex with molecular mass of 35 – 40 kDa approximately. Bo S-1 inhibited the enzymatic and pharmacological effects such as edema, platelet aggregation and myonecrosis induced by isolated K49 and D49 PLA₂. Our enzymatic and biological assays strongly suggest that these SPs should be bind to the C-terminal of the PLA₂ and thus neutralizing the myotoxic and neurotoxic effect of this sPLA₂.

Key words: PLA₂, *Botryocladia occidentalis*, snake venom and sulphated polysaccharides