PURIFICATION AND PARTIAL CHARACTERIZATION OF A TACHYLECTIN-LIKE PROTEIN FROM THE VENOM OF THE BRAZILIAN SPIDER *Phoneutria nigriventer*

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ABSTRACT: In this work whilst attempting to purify the enzyme hyaluronidase from the venom of the spider *Phoneutria nigriventer* using gel filtration (Sephadex G-50) and reverse phase HPLC (Vydac C4) we accidentally discovered a dimeric lectin of 52kDa. This is the first report of any such molecule in the venom of the order Araneae. This lectin has an integrin-binding domain (RDG) and an amino acid sequence which shows 54% and 45% identity with the Tachylectins (TL) 5A and 5B respectively, which are isoforms isolated from the hemolymph of the horseshoe crab *Thachypleus tridentatus.* The TLs are lectins which recognize specific polysaccharides of pathogens and are involved in the innate immunity of the organism. In addition, the Tachylectins have homology with mammalian ficolins and vertebrate fibrinogen, with the functions of recognition and agglutination, respectively. Considering the structure and possible functions of the lectin from spider venom, it appears to have been derived from a multi-functional molecule, which perhaps was a common ancestor of immune and aggregation systems, found in invertebrates and vertebrates.

KEY WORDS: *Phoneutria nigriventer,* lectins, fibrinogen, venoms, Tachylectin.

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