



Primary structure and electrophysiological characterization of two almost identical isoforms of toxin from *Isometrus vittatus* (family: Buthidae) scorpion venom.

Submitted by Sandrine Giraud on Thu, 03/05/2015 - 12:09

Titre	Primary structure and electrophysiological characterization of two almost identical isoforms of toxin from <i>Isometrus vittatus</i> (family: Buthidae) scorpion venom.
Type de publication	Article de revue
Auteur	Coronas, F.V. [1], Stankiewicz, Maria [2], Batista, C.V.F. [3], Giraud, Sandrine [4], Alam, J.M. [5], Possani, L.D. [6], Mebs, D [7], Pelhate, M [8]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2003
Langue	Anglais
Date	2003 Jun
Numéro	8
Pagination	989-997
Volume	41
Titre de la revue	Toxicon
ISSN	0041-0101
Mots-clés	Amino Acid Sequence [9], Animals [10], Axons [11], Cockroaches [12], Electrophysiology [13], Models, Biological [14], Molecular Sequence Data [15], Patch-Clamp Techniques [16], Protein Isoforms [17], Scorpion Venoms [18], Scorpions [19], Sequence Homology, Amino Acid [20]
Résumé en anglais	<p>Two almost identical proteins with 70 amino acid residues each, closely packed by four disulfide bridges, and molecular masses of 7899.5 and 7884.7 were isolated and sequenced from the venom of the scorpion <i>Isometrus vittatus</i> from Pakistan. They differ by an acidic amino acid residue (glutamic or aspartic) at the same position 55 of the peptide chain, however, they exhibit the same length, the same charge and are undistinguishable when separated by C(18) reverse phase HPLC. The mixture of the two proteins called IsomTx1 depolarizes the cockroach isolated axon; artificial repolarization is followed by sustained repetitive activity, artificial hyperpolarization facilitates bursting activity observed as an answer to rapid depolarization to -60 mV. The depolarization is antagonized by TTX. In voltage-clamp experiments IsomTx1 increases axonal sodium permeability which has a particular importance between resting and threshold potentials and moderately slows down the fast inactivation. These characteristics closely resemble those of other anti-insect scorpion toxins classified as contractive toxins from <i>Androctonus</i> and <i>Buthotus</i> venoms.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua8597 [21]
DOI	10.1016/S0041-0101(03)00071-0 [22]

Lien vers le document [http://dx.doi.org/10.1016/S0041-0101 \[23\]\(03\)00071-0](http://dx.doi.org/10.1016/S0041-0101 [23](03)00071-0)
Autre titre Toxicon
Identifiant (ID) PubMed 12875873 [24]

Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=15209](http://okina.univ-angers.fr/publications?f[author]=15209)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=11306](http://okina.univ-angers.fr/publications?f[author]=11306)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=15211](http://okina.univ-angers.fr/publications?f[author]=15211)
- [4] <http://okina.univ-angers.fr/sandrine.giraud/publications>
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=15213](http://okina.univ-angers.fr/publications?f[author]=15213)
- [6] [http://okina.univ-angers.fr/publications?f\[author\]=15214](http://okina.univ-angers.fr/publications?f[author]=15214)
- [7] [http://okina.univ-angers.fr/publications?f\[author\]=15215](http://okina.univ-angers.fr/publications?f[author]=15215)
- [8] [http://okina.univ-angers.fr/publications?f\[author\]=15216](http://okina.univ-angers.fr/publications?f[author]=15216)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=8588](http://okina.univ-angers.fr/publications?f[keyword]=8588)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=964](http://okina.univ-angers.fr/publications?f[keyword]=964)
- [11] [http://okina.univ-angers.fr/publications?f\[keyword\]=14225](http://okina.univ-angers.fr/publications?f[keyword]=14225)
- [12] [http://okina.univ-angers.fr/publications?f\[keyword\]=9169](http://okina.univ-angers.fr/publications?f[keyword]=9169)
- [13] [http://okina.univ-angers.fr/publications?f\[keyword\]=12765](http://okina.univ-angers.fr/publications?f[keyword]=12765)
- [14] [http://okina.univ-angers.fr/publications?f\[keyword\]=995](http://okina.univ-angers.fr/publications?f[keyword]=995)
- [15] [http://okina.univ-angers.fr/publications?f\[keyword\]=8594](http://okina.univ-angers.fr/publications?f[keyword]=8594)
- [16] [http://okina.univ-angers.fr/publications?f\[keyword\]=9184](http://okina.univ-angers.fr/publications?f[keyword]=9184)
- [17] [http://okina.univ-angers.fr/publications?f\[keyword\]=9154](http://okina.univ-angers.fr/publications?f[keyword]=9154)
- [18] [http://okina.univ-angers.fr/publications?f\[keyword\]=14226](http://okina.univ-angers.fr/publications?f[keyword]=14226)
- [19] [http://okina.univ-angers.fr/publications?f\[keyword\]=14227](http://okina.univ-angers.fr/publications?f[keyword]=14227)
- [20] [http://okina.univ-angers.fr/publications?f\[keyword\]=9178](http://okina.univ-angers.fr/publications?f[keyword]=9178)
- [21] <http://okina.univ-angers.fr/publications/ua8597>
- [22] [http://dx.doi.org/10.1016/S0041-0101\(03\)00071-0](http://dx.doi.org/10.1016/S0041-0101(03)00071-0)
- [23] <http://dx.doi.org/10.1016/S0041-0101>
- [24] <http://www.ncbi.nlm.nih.gov/pubmed/12875873?dopt=Abstract>

Publié sur *Okina* (<http://okina.univ-angers.fr>)