

Target: Sodium Channels  
Format: Targeted Venom Discovery Array

Code: T-VDA<sup>Na+</sup>

## Product Description

The sodium (Na<sup>+</sup>) channel Targeted Venom Discovery Array<sup>™</sup> (T-VDA<sup>Na+</sup>) is specifically designed to maximise discovery of new tools. Na<sup>+</sup> channels are important drug targets for a range of **neurological disorders**, specifically **pain**. Venoms from theraphosids (tarantulas), scorpions and snakes are rich sources of new Na<sup>+</sup> tools. These targeted arrays contain pure venom fractions from 12, 24, 48 or 96 species **optimised for identification of novel tools**. Each array contains characterised venoms active on sodium channels from the literature to act as positive controls. The control venoms for T-VDA<sup>Na+</sup> include *Thrixopelma puriens* (Peruvian velvet tarantula) where **Protox II**, a gating modifier of NaV1.7<sup>1</sup>, was discovered; *Androctonus australis* (Sahara scorpion) where several selective sodium channel tools have been discovered<sup>2</sup>; and *Crotalus durissus* (South American rattlesnake) venom which contains **crotamine**<sup>3</sup>, one of the very few snake-derived Na<sup>+</sup> channel toxins. The other venom fractions making up the library have been specially selected by our drug discovery scientists to maximise novel hit potential.

- Venoms are supplied lyophilised in Echo<sup>®</sup> qualified acoustic source plates (Labcyte Inc) and are useable on any SBS footprint liquid handling device or by hand.
- 384-well format has 1µg venom fraction per well, re-suspension with 30µl will produce ~1.6µM-16µM stock concentration of peptides.
- 1536-well format has 300ng venom fraction per well, re-suspension with 10µl will produce ~1.5µM-15µM stock concentration of peptides.

1. Priest B.T., Blumenthal K.M., Smith J.J., Warren V.A., Smith M.M. (2007). ProTx-I and ProTx-II: gating modifiers of voltage-gated sodium channels. *Toxicon*, 49:194-201
2. Loret E.P., Martin-Eauclaire M.-F., Mansuelle P., Sampieri F., Granier C., Rochat H. (1991). An anti-insect toxin purified from the scorpion *Androctonus australis hector* also acts on the alpha- and beta-sites of the mammalian sodium channel: sequence and circular dichroism study. *Biochemistry* 30:633-640.
3. Mancin A.C., Soares A.M., Andriao-Escarso S.H., Faca V.M., Greene L.J., Zuccolotto S., Pela I.R., Giglio J.R. (1998). The analgesic activity of crotamine, a neurotoxin from *Crotalus durissus terrificus* (South American rattlesnake) venom: a biochemical and pharmacological study. *Toxicon*, 36:1927-1937

Data compiled from UniProt: Reorganizing the protein space at the Universal Protein Resource (UniProt), *Nucleic Acids Res.* 40: D71-D75 (2012).

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