

Target: Pain – analgesics and antinociceptives
Format: Targeted Venom Discovery Array

Code: T-VDA^{pain}

Product Description

The **Pain Targeted Venom Discovery Array (T-VDA)** is specifically designed to maximise discovery of new analgesic tools. Ion channels are very important pain targets along with receptors such as opioids and acetylcholine. Venoms from theraphosids (tarantulas), scorpions and snakes are rich sources of new analgesic 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 in analgesic pathways from the literature to act as positive controls. The control venoms for T-VDA^{pain} include *Thrixopelma puriens* (Peruvian velvet tarantula) where **Protox II**, a gating modifier of NaV1.7¹, was discovered; *Leiurus quinquestriatus* (death stalker scorpion) where **opioid selective tools** have been discovered²; and *Dendroaspis polylepis* (black mamba) venom which contain **mambalgins**³ - potent and selective ASIC channel tools. 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[®] 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., *et al.* (2007). ProTx-I and ProTx-II: gating modifiers of voltage-gated sodium channels. *Toxicon* 49:194-201
2. Martin-Eauclaire MF *et al* (2010). Involvement of endogenous opioid system in scorpion toxin-induced antinociception in mice. *Neurosci Lett.* Sep 20;482(1):45-50
3. Diochot, S. *et al.* (2012). Black mamba venom peptides target acid-sensing ion channels to abolish pain. *Nature* 490, 552-555

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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