

Target: Insecticides
Format: Targeted Venom Discovery Array

Code: T-VDA^{insect}

Product Description

The **insecticide Targeted Venom Discovery Array[™] (T-VDA^{insect})** is specifically designed to maximise discovery of new insecticide tools. Venoms are a rich source of insect-specific toxins as many arthropods have evolved these toxins for efficient prey capture. Insect-specific toxins from theraphosids (tarantulas) and scorpions are the most likely to yield the most useful materials. 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 at insect targets from the literature to act as positive controls. The control venoms for T-VDA^{insect} include *Leiurus quinquestriatus* (death stalker scorpion) which contains several insect-specific toxins – excitatory and inhibitory¹; *Brachypelma smithi* (Mexican red-kneed tarantula) venom that contains insect-specific sodium channel toxins with no mammalian activity²; and *Phoneutria nigriventer* (Brazilian armed spider) venom which contains another insect-specific neurotoxin³. 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 200ng venom fraction per well, suggested dilution 20µl as hit fractions are typically active at 5µg/ml and below.
- 1536-well format also available.

1. Kopeyan C., Mansuelle P., Sampieri F., Brando T., Bahraoui E.M., Rochat H., Granier C. (1990). Primary structure of scorpion anti-insect toxins isolated from the venom of *Leiurus quinquestriatus quinquestriatus*. FEBS Lett. 261:423-426
2. Corzo G., Diego-Garcia E., Clement H., Peigneur S., Odell G., Tytgat J., Possani L.D., Alagon A. (2008). An insecticidal peptide from the therapsid *Brachypelma smithi* spider venom reveals common molecular features among spider species from different genera. Peptides 29:1901-1908
3. Figueiredo S.G., Lima-Perez Garcia M.E., Valentim A.D.C., Cordeiro M.N., Diniz C.R., Richardson M. (1995). Purification and amino acid sequence of the insecticidal neurotoxin Tx4(6-1) from the venom of the 'armed' spider *Phoneutria nigriventer*. Toxicon 33:83-93

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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