

Target: Antiviral  
Format: Targeted Venom Discovery Array

Code: T-VDA<sup>viral</sup>

## Product Description

With viruses such as HIV, HPV, influenza and Ebola representing serious threats to human health globally, there is a significant need for new therapeutics to target them; and venoms are proving a rich source of new molecules. The antiviral Targeted Venom Discovery Array (T-VDA<sup>™</sup>) is specifically designed to maximise discovery of new tools as **novel antiviral peptides and proteins** have been found in snake and scorpion venoms. Each targeted array contains pure venom fractions from 12, 24, 48 or 96 species optimised for identification of novel antivirals. Each array contains characterised venoms **active against viral mechanisms and infection** from the literature to act as positive controls. The controls for T-VDA<sup>viral</sup> include *Trimeresurus stejnegeri* (bamboo viper) venom, which contains unique **L-amino acid oxidase enzymes** that have shown to be **antiviral**<sup>1</sup>. Contortrostatin, a disintegrin from *Agkistrodon contortrix contortrix* (southern copperhead) venom is providing a novel approach to blocking HSV (Herpes Simplex Virus) entry<sup>2</sup>. The venoms from a number of scorpion species, particularly those from the *Heterometrus* genus, contain antiviral peptides<sup>3</sup>. Other venom fractions making up the library have been specially selected by our drug discovery scientists to maximise the 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. Zhang YJ, Wang JH, Lee WH, Wang Q, Liu H, Zheng YT, Zhang Y. (2003). Molecular characterization of *Trimeresurus stejnegeri* venom L-amino acid oxidase with potential anti-HIV activity. *Biochem. Biophys. Res. Commun.* 26:309(3):598-604.
2. Hubbard S, Choudhary S, Maus E, Shukla D, Swenson S, Markland FS Jr, Tiwari V. (2012). Contortrostatin, a homodimeric disintegrin isolated from snake venom inhibits herpes simplex virus entry and cell fusion. *Antivir Ther.* 7(7):1319-26.
3. Yan R, Zhao Z, He Y, Wu L, Cai D, Hong W, Wu Y, Cao Z, Zheng C, Li W. (2011). A new natural  $\alpha$ -helical peptide from the venom of the scorpion *Heterometrus petersii* kills HCV. *Peptides.* 32(1):11-9.

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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