VENOMTECH®
Drug Discovery Solutions™

Target:	**Antiviral**
Format:	**Targeted Venom Discovery Array**
Code:	**T-VDA^{viral}**

Product Description

With viruses such as SARS CoV2 which causes COVID19, SARS CoV, HIV, HPV, influenza (including H5N1) 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™) is specifically designed to maximise discovery of new therapeutics, 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, shown in literature to be **active against viral mechanisms and infection**, to act as positive controls. Controls include Scorpion venom sequences similar to mucroporin, found to display activity against HIV[1], **SARS CoV**[2] and H5N1[2], *Trimeresurus stejnegeri* (bamboo viper) venom, which contains unique **L-amino acid oxidase enzymes** shown to be **antiviral**[1] and Contortrostatin, a disintegrin from *Agkistrodon contortrix contortrix* (southern copperhead) venom, identified as providing a novel approach to blocking HSV (Herpes Simplex Virus) entry[2]. The venoms from a number of scorpion species, particularly those from the *Heterometrus* genus, have been identified to contain peptides with antiviral activities[3]. 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® 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.
- 96 and 1536-well formats also available.

1. Chen, Y., Cao, L., Zhong, M., Zhang, Y., Han, C., Li, Q., … Yan, H. (2012). Anti-HIV-1 activity of a new scorpion venom peptide derivative Kn2-7. PLoS ONE, 7(4), 34947.
2. Li, Q., Zhao, Z., Zhou, D., Chen, Y., Hong, W., Cao, L., … Li, W. (2011). Virucidal activity of a scorpion venom peptide variant mucroporin-M1 against measles, SARS-CoV and influenza H5N1 viruses. Peptides, 32(7), 1518–1525.
3. 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.
4. 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.
5. Yan R, Zhao Z, He Y, Wu L, Cai D, Hong W, Wu Y, Cao Z, Zheng C, Li W. (2011). A new natural α-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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