VENOMTECH®
Drug Discovery Solutions™

Target:	**Amyotrophic Lateral Sclerosis – Motor Neurone Disease**
Format:	**Targeted Venom Discovery Array**
Code:	**T-VDA^{ALS}**

Product Description

The **Amyotrophic Lateral Sclerosis (ALS) Targeted Venom Discovery Array™ (T-VDA^{ALS})** is specifically designed to maximise discovery of new tools. One of the key pathologies seen in ALS muscular degeneration is excess calcium (Ca^{2+}). Ca^{2+} channels are, therefore, important drug targets for this **neurological disorder**. Venoms from theraphosids (tarantulas), scorpions and snakes are rich sources of new Ca^{2+} channel tools. The ALS targeted array contains pure venom fractions from 12, 24, 48 or 96 species **optimised for identification of novel tools**. Each array contains characterised venoms active on calcium channels from the literature to act as positive controls. The control venoms for T-VDA^{Ca2+} include *Parabuthus transvaalicus* (South African fattail scorpion), which contains **Kurtoxin** with broad spectrum calcium channel activity L,T,N and P type channels[1]; *Dendroaspis angusticeps* (Eastern green mamba) venom which contains **Calcicludin**, a potent L-type calcium channel blocker[2]; and *Hysterocrates gigas* (Cameroon red baboon tarantula) venom which blocks N and E type calcium currents[3]. With a special focus on *Grammastola* species, 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. Chuang R.S.I., Jaffe H., Cribbs L., Perez-Reyes E., Swartz K (1998). Inhibition of T-type voltage-gated calcium channels by a new scorpion toxin. J. Nat. Neurosci. 1:668-674
2. Schweitz H., Heurteaux C., Bois P., Moinier D., Romey G., Lazdunski M. (1994). Calcicludine, a venom peptide of the Kunitz-type protease inhibitor family, is a potent blocker of high-threshold Ca2+ channels with a high affinity for L-type channels in cerebellar granule neurons. Proc. Natl. Acad. Sci. U.S.A. 91:878-882
3. Newcomb R., Szoke B., Palma A., Wang G., Chen X.H., Hopkins W., Cong R., Miller J., Urge L., Tarczy-Hornoch K., Loo J.A., Dooley D.J., Nadasdi L., Tsien R.W., Lemos J., Miljanich G. (1998). Selective peptide antagonist of the class E calcium channel from the venom of the tarantula *Hysterocrates gigas*. Biochemistry 37:15353-15362

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

Web: www.venomtech.co.uk Email: info@venomtech.co.uk Tel: +44 (0)1304 892694