

Target: Potassium Channels
Format: Targeted Venom Discovery Array

Code: T-VDA^{K+}

Product Description

The potassium (K⁺) channel Targeted Venom Discovery Array[™] is specifically designed to maximise discovery of new tools. K⁺ channels are important drug targets for a range of **neurological disorders** including **pain**. Venoms from scorpions, snakes and spiders are rich sources of new K⁺ 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 on potassium channels from the literature to act as positive controls. The control venoms for T-VDA^{K+} include *Dendroaspis polylepis* (black mamba snake) where **Dendrotoxin K1** was discovered; *Pandinus imperator* (emperor scorpion) where several **selective potassium channel tools** have been discovered²; and *Grammostola rosea* (Chilean rose tarantula) which also contains a diverse **collection of toxins including gating modifiers**³. 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. Smith L.A., Lafaye P.J., LaPenotiere H.F., Spain T., Dolly J.O. (1993). Cloning and functional expression of dendrotoxin K from black mamba, a K⁺ channel blocker. *Biochemistry* 32:5692-5697
2. Rogowski R.S., Collins J.H., O'Neill T.J., Gustafson T.A., Werkman T.R., Rogawski M.A., Tenenholz T.C., Weber D.J., Blaustein M.P. (1996). Three new toxins from the scorpion *Pandinus imperator* selectively block certain voltage-gated K⁺ channels. *Mol. Pharmacol.* 50:1167-1177
3. Swartz K.J., MacKinnon R. (1995). An inhibitor of the Kv2.1 potassium channel isolated from the venom of a Chilean tarantula. *Neuron* 15:941-949

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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