

## HsTX1 TFA

<b>Cat. No.:</b>	HY-P5182A
<b>Molecular Formula:</b>	C <sub>149</sub> H <sub>246</sub> N <sub>54</sub> O <sub>46</sub> S <sub>9</sub> ·xC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>
<b>Sequence:</b>	Ala-Ser-Cys-Arg-Thr-Pro-Lys-Asp-Cys-Ala-Asp-Pro-Cys-Arg-Lys-Glu-Thr-Gly-Cys-Pro-Tyr-Gly-Lys-Cys-Met-Asn-Arg-Lys-Cys-Lys-Cys-Asn-Arg-Cys-NH <sub>2</sub> (Disulfide Bridge: Cys3-Cys24; Cys9-Cys29; Cys13-Cys31; Cys19-Cys34) <small>ASCRTPKDCADPCRKETGCPYGKCMNRKCKNRC-NH<sub>2</sub>        (Disulfide Bridge: Cys3-Cys24; Cys9-Cys29; Cys13-Cys31; Cys19-Cys34) (TFA salt)</small>
<b>Sequence Shortening:</b>	ASCRTPKDCADPCRKETGCPYGKCMNRKCKNRC-NH <sub>2</sub> (Disulfide Bridge: Cys3-Cys24; Cys9-Cys29; Cys13-Cys31; Cys19-Cys34)
<b>Target:</b>	Potassium Channel
<b>Pathway:</b>	Membrane Transporter/Ion Channel
<b>Storage:</b>	Sealed storage, away from moisture Powder    -80°C    2 years -20°C    1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

### SOLVENT & SOLUBILITY

**In Vitro**                      H<sub>2</sub>O : 50 mg/mL (Need ultrasonic)

### BIOLOGICAL ACTIVITY

**Description**                      HsTX1 (TFA) toxin, from the scorpion *Heterometrus spinifer*, is a 34-residue, C-terminally amidated peptide cross-linked by four disulfide bridges. HsTX1 (TFA) is an the inhibitor of potassium channel, with IC<sub>50</sub> for Kv1.3 of 12 pM and inhibits T<sub>EM</sub> cell activation and attenuates inflammation in autoimmunity<sup>[1][2][3]</sup>.

### REFERENCES

- [1]. M Harunur Rashid, et al. A potent and Kv1.3-selective analogue of the scorpion toxin HsTX1 as a potential therapeutic for autoimmune diseases. *Sci Rep.* 2014 Mar 28;4:4509. doi: 10.1038/srep04509.
- [2]. Mark R. Tanner, et al. Prolonged immunomodulation in inflammatory arthritis using the selective Kv1.3 channel blocker HsTX1[R14A] and its PEGylated analog. *Immunol.* 2017 Jul; 180: 45–57. Published online 2017 Apr 4.
- [3]. Lebrun, Bruno, et al. A four-disulphide-bridged toxin, with high affinity towards voltage-gated K<sup>+</sup> channels, isolated from *Heterometrus spinifer* (Scorpionidae) venom. *Biochemical Journal.* 328 (Pt 1): 321–327.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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