GrTx1

Cat. No.:	HY-P5164
Molecular Formula:	$C_{159}H_{243}N_{45}O_{41}S_8$
Molecular Weight:	3697.43
Sequence:	Tyr-Cys-Gln-Lys-Trp-Met-Trp-Thr-Cys-Asp-Ser-Lys-Arg-Lys-Cys-Cys-Glu-Asp-Met-Val-Cys-Gln-Leu-Trp-Cys-Lys-Lys-Arg-Leu (Disulfide bonds: Cys2-Cys16, Cys9-Cys21, Cys15-Cys25)
Sequence Shortening:	YCQKWMWTCDSKRKCCEDMVCQLWCKKRL (Disulfide bonds: Cys2-Cys16, Cys9-Cys21, Cys15-Cys25)
Target:	Sodium Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	GrTx1 is a peptide toxin originally isolated from the venom of the spider Grammostola rosea. GrTx1 blocks sodium channel with IC_{50}s of 0.63 μM, 0.23 μM, 0.77 μM, 1.29 μM, 0.63 μM and 0.37 μM for Nav1.1, Nav1.2, Nav1.3, Nav1.4, Nav1.6 and Nav1.7, repectively[2].GrTx1 can be used for neurological disease research[1].
In Vitro	GrTx1 (0-100 μM, 3 min) blocks Na^+ currents of neuroblastoma F-11 cells with an IC_{50} of 2.8 μM[1].GrTx1 (10 μM, 3 min) blocks about 85% Na^+ currents of neuroblastoma F-11 cells with no effects on common K^+ channels, such as Kv1.1 and 1.4[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Clement H,et.al. Isolation and characterization of a novel toxin from the venom of the spider Grammostola rosea that blocks sodium channels. Toxicon. 2007 Jul;50(1):65-74.

[2]. Redaelli E, et.al. Target promiscuity and heterogeneous effects of tarantula venom peptides affecting Na+ and K+ ion channels. J Biol Chem. 2010 Feb 5;285(6):4130-4142.

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