

## $\omega$ -Agatoxin IVA TFA

Cat. No.:	HY-P1080A
Molecular Formula:	C <sub>217</sub> H <sub>360</sub> N <sub>68</sub> O <sub>60</sub> S <sub>10</sub> C <sub>2</sub> HF <sub>3</sub> O <sub>2</sub>
Molecular Weight:	5316.27
Sequence:	Lys-Lys-Lys-Cys-Ile-Ala-Lys-Asp-Tyr-Gly-Arg-Cys-Lys-Trp-Gly-Gly-Thr-Pro-Cys-Cys-Arg-Gly-Arg-Gly-Cys-Ile-Cys-Ser-Ile-Met-Gly-Thr-Asn-Cys-Glu-Cys-Lys-Pro-Arg-Leu-Ile-Met-Glu-Gly-Leu-Gly-Leu-Ala (Disulfide bridge:Cys4-Cys20,Cys12-Cys25,Cys19-Cys36,Cys27-Cys34)
Sequence Shortening:	KKKCIADYGRCKWGGTPCCRGRGCICSIMGTNCECKPRLIMEGLGLA (Disulfide bridge:Cys4-Cys20,Cys12-Cys25,Cys19-Cys36,Cys27-Cys34)
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Sealed storage, away from moisture and light, under nitrogen Powder    -80°C    2 years -20°C    1 year  * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)

### BIOLOGICAL ACTIVITY

#### Description

$\omega$ -Agatoxin IVA TFA is a potent, selective P/Q type Ca<sup>2+</sup> (Cav2.1) channel blocker with IC<sub>50</sub>s of 2 nM and 90 nM for P-type and Q-type Ca<sup>2+</sup> channels, respectively.  $\omega$ -Agatoxin IVA TFA (IC<sub>50</sub>, 30-225 nM) inhibits glutamate exocytosis and calcium influx elicited by high potassium.  $\omega$ -Agatoxin IVA TFA also blocks the high potassium-induced release of serotonin and norepinephrine.  $\omega$ -Agatoxin IVA TFA has no effect on L-type or N-type calcium channels<sup>[1][2]</sup>.

### REFERENCES

- [1]. M Kimura, et al. Involvement of P-type calcium channels in high potassium-elicited release of neurotransmitters from rat brain slices. *Neuroscience*. 1995 Jun;66(3):609-15.
- [2]. T Teramoto, et al. A novel type of calcium channel sensitive to omega-agatoxin-TK in cultured rat cerebral cortical neurons. *Brain Res*. 1997 May 9;756(1-2):225-30.

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

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