

## α-Bungarotoxin

<b>Cat. No.:</b>	HY-P1264
<b>CAS No.:</b>	11032-79-4
<b>Molecular Formula:</b>	C <sub>338</sub> H <sub>529</sub> N <sub>97</sub> O <sub>105</sub> S <sub>11</sub>
<b>Molecular Weight:</b>	7984.12
<b>Sequence:</b>	Ile-Val-Cys-His-Thr-Thr-Ala-Thr-Ser-Pro-Ile-Ser-Ala-Val-Thr-Cys-Pro-Pro-Gly-Glu-Asn-Leu-Cys-Tyr-Arg-Lys-Met-Trp-Cys-Asp-Ala-Phe-Cys-Ser-Ser-Arg-Gly-Lys-Val-Val-Glu-Leu-Gly-Cys-Ala-Ala-Thr-Cys-Pro-Ser-Lys-Lys-Pro-Tyr-Glu-Glu-Val-Thr-Cys-Cys-Ser-Thr-Asp-Lys-Cys-Asn-Pro-His-Pro-Lys-Gln-Arg-Pro-Gly (Disulfide bridge: Cys3-Cys23;Cys16-Cys44;Cys29-Cys33;Cys48-Cys59;Cys60-Cys65)
<b>Sequence Shortening:</b>	IVCHTTATSPISAVTCPPGENLCYRKMWCDAFCSSRGKVELGCAATCPSKPKPYEEVTCSTDKCNPHPKQRP (Disulfide bridge: Cys3-Cys23;Cys16-Cys44;Cys29-Cys33;Cys48-Cys59;Cys60-Cys65)
<b>Target:</b>	nAChR
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Neuronal Signaling
<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)

### BIOLOGICAL ACTIVITY

<b>Description</b>	α-Bungarotoxin is a competitive antagonist at nicotinic acetylcholine receptors (nAChRs). α-Bungarotoxin, a selective α7 receptor blocker, blocks α7 currents with an IC <sub>50</sub> of 1.6 nM and has no effects on α3β4 currents at concentrations up to 3 μM [1][2].
<b>In Vitro</b>	α-Bungarotoxin binds specifically and with high affinity to the nicotinic acetylcholine receptor and competes with binding of the natural ligand. α-Bungarotoxin (α-BTX), is a potent competitive inhibitors of nicotinic acetylcholine receptor function and is highly toxic due to functional blockade of AcChoRs at the neuromuscular junction <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### CUSTOMER VALIDATION

- Redox Biol. 2023, 102594.
- Neuromodulation. 2022 Mar 14;S1094-7159(22)00293-8.
- Neuropsychiatr Dis Treat. 2021 Aug 10;17:2599-2611.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

### REFERENCES

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[1]. Hannan S, et al. Snake neurotoxin  $\alpha$ -bungarotoxin is an antagonist at native GABA(A) receptors. *Neuropharmacology*. 2015;93:28-40.

[2]. López MG, et al. Unmasking the functions of the chromaffin cell  $\alpha$ 7 nicotinic receptor by using short pulses of acetylcholine and selective blockers. *Proc Natl Acad Sci U S A*. 1998;95(24):14184-14189.

[3]. Balass M, et al. The  $\alpha$ -bungarotoxin binding site on the nicotinic acetylcholine receptor: analysis using a phage-epitope library. *Proc Natl Acad Sci U S A*. 1997;94(12):6054-6058.

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

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