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DATASHEET

ω-Conotoxin GVIA

Product overview

Name	ω-Conotoxin GVIA
Cat No	HB1218
Alternative names	ω-CTX, ω-CgTx; SNX-124
Biological action	Blocker
Purity	>98%
Net peptide content	73% (this peptide is sold by gross weight)
Special requirements	As this product is a toxin, customers are required to complete a short end user declaration when ordering. Our customer care team will be happy to help you with this.
Description	This is a home office notifiable schedule 5 toxin. Potent, selective $Ca_v2.2$ (N-type) channel blocker

Biological Data

Biological description

Conotoxin GVIA is a peptide neurotoxin which is a potent, selective and partially reversible $Ca_v2.2$ (N-type) calcium channel blocker (IC_{50} = 0.15 nM). ω-Conotoxin GVIA binds the $Ca_v2.2$ α1 subunit (α1B).

Conotoxin GVIA inhibits presynaptic $Ca_v2.2$ channels, reduces glutamate release and irreversibly blocks synaptic transmission.

It also attenuates (RS)-3,5-DHPG-induced LTD (long term depression).

It shows antinociceptive action and attenuates hyperalgesia and allodynia.

Conotoxin GVIA is active in vivo.

Solubility & Handling

Storage instructions	-20°C (desiccate)
Solubility overview	Soluble in water (1mg/ml)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	H-Cys(1)-Lys-Ser-Hyp-Gly-Ser-Ser-Cys(2)-Ser-Hyp-Thr-Ser-Tyr-Asn-Cys(3)-Cys(1)-Arg-Ser-Cys(2)-Asn-Hyp-Tyr-Thr-Lys-Arg-Cys(3)-Tyr-NH2 trifluoroacetate salt
Molecular Weight	3037
Molecular Formula	$C_{120}H_{182}N_{38}O_{43}S_6$
CAS Number	106375-28-4
PubChem identifier	16133838
SMILES	C[C@H]([C@H]1C(=O)N[C@H](C(=O)N[C@H](C(=O)N[C@H](C(=O)N[C@H]2CSSC[C@H](NC(=O)[C@@H](NC(=O)[C@@H](NC(=O)[C@@H](NC(=O)[C@@H](NC(=O)[C@@H]3C[C@H](CN3C(=O)[C@@H](NC(=O)[C@@H]4CSSC[C@@H](C(=O)N[C@H](C(=O)N5C[C@@H](C[C@H]5C(=O)N1)O)CO)NC(=O)[C@@H](NC(=O)[C@@H](NC(=O)CNC(=O)[C@@H]6C[C@H](CN6C(=O)[C@@H

	](NC(=O)[C@@H](NC(=O)[C@H](CSSC[C@@H](C(=O)N[C@H](C(=O)N[C@H](C(=O)N4)CO)CCCNC(=N)N)NC2=O)N)CCCCN)CO)O)CO)CO)CC(=O)N)O)CC7=CC=C(C=C7)O)[C@@H](C)O)CCCCN)CCCNC(=N)N)C(=O)N[C@@H](CC8=CC=C(C=C8)O)C(=O)N)CC(=O)N)CC9=CC=C(C=C9)O)CO)O
InChi	InChI=1S/C120H182N38O43S6/c1-53(165)91-114(197)138-66(10-4-6-26-122)95(178)136-68(12-8-28-132-120(129)130)98(181)149-81(107(190)139-69(93(126)176)29-55-13-19-58(167)20-14-55)49-204-207-52-84-110(193)153-80-48-203-202-47-64(123)94(177)135-65(9-3-5-25-121)9
InChiKey	FDQZTPPHJRQRQQ-NZPQQUJLSA-N
MDL number	MFCD00076620

References

Complex structures between the N-type calcium channel (CaV2.2) and ω-conotoxin GVIA predicted via molecular dynamics.

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Distinct mechanisms contribute to agonist and synaptically induced metabotropic glutamate receptor long-term depression.

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omega-Conotoxin reduces facilitation of transmitter release at the frog neuromuscular junction.

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