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DATASHEET

Charybdotoxin

Product overview

| | |
|--------------------------|--|
| Name | Charybdotoxin |
| Cat No | HB1052 |
| Alternative names | ChTx |
| Biological action | Inhibitor |
| Description | Potent, selective K_{Ca} channel inhibitor |

Images



Biological Data

| | |
|-------------------------------|--|
| Biological description | Potent and selective K_{Ca} channel inhibitor ($K_d = 3.5$ nM). Displays high affinity for $K_v1.3$. Also a homotetrameric F425H channel blocker ($K_d = 48$ nM). Found in venom of the <i>Leiurus quinquestriatus hebraeus</i> scorpion. |
|-------------------------------|--|

Solubility & Handling

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|-----------------------------|---|
| 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

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|---------------------------|--|
| Molecular Weight | 4295.95 |
| Chemical structure | |
| Molecular Formula | $C_{176}H_{277}N_{57}O_{55}S_7$ |
| CAS Number | 95751-30-7 |
| PubChem identifier | 102594130 |
| SMILES | <chem>[H]N1[C@@H](CCC1=O)C(=O)N[C@@H](CC1=CC=CC=C1)C(=O)N[C@@H]([C@@H](C)O)C(=O)N[C@@H](CC(N)=O)C(=O)N[C@@H](C(C)C)C(=O)N[C@@H](CO)C(=O)N[C@@H]1CSSC[C@@H]2NC(=O)[C@@H](CCCCN)NC(=O)CNC(=O)[C@@H](CCCNC(N)=N)NC(=O)[C@@H](CO)NC(=O)[C@@H](NC(=O)[C@@H](CC(N)=O)NC(=O)[C@@H](CC3=CNC=N3)NC(=O)[C@@H](CC(C)C)NC(=O)[C@@H](CCCNC(N)=N)NC(=O)[C@@H](CCC(N)=O)NC(=O)[C@@H]3CSSC[C@@H](NC(=O)[C@@H](CCCNC(N</chem> |

InChIKey

)=N)NC(=O)[C@H](C(SSC[C@H](NC(=O)[C@H](CCC(O)=O)NC(=O)[C@H](CCCCN)NC(=O)[C@H](CO)NC(=O)[C@@H](NC(=O)[C@@H](NC1=O)[C@@H](C)O)[C@@H](C)O)C(=O)N[C@@H](CC1=CNC4=C1C=CC=C4)C(=O)N[C@@H](CO)C(=O)N[C@@H](C(C)C)C(=O)N3)NC(=O)[C@H](CCCN)NC(=O)[C@H](CCCCN)NC(=O)[C@H](CC(N)=O)NC(=O)[C@H](CCSC)NC2=O)C(=O)N[C@@H](CC1=CC=C(O)C=C1)C(=O)N[C@@H](CO)C(=O)[C@@H](C)O
CNVQLPPZGABUCM-UHFFFAOYSA-N

References

Purification, sequence, and model structure of charybdotoxin, a potent selective inhibitor of calcium-activated potassium channels.

Gimenez-Gallego G *et al* (1988) Proc Natl Acad Sci U S A 85(10)

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Gao YD *et al* (2003) Proteins 52(2)

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Electrostatic interaction between charybdotoxin and a tetrameric mutant of Shaker K(+) channels.

Thompson J *et al* (2000) Biophys J 78(5)

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Charybdotoxin and margatoxin acting on the human voltage-gated potassium channel hKv1.3 and its H399N mutant: an experimental and computational comparison.

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