Delta-stichotoxin-Hcr1a, recombinant venom peptide (*Heteractis crispa*)

Catalogue number: VP0010, 50 µg
(0.5 mL at 0.1 mg/mL)

Description

Delta-stichotoxin-Hcr1a (Neurotoxin 3) venom peptide is a recombinant peptide purified from *Escherichia coli* that was originally isolated from the venom of *Heteractis crispa* (Leathery sea anemone). This venom peptide binds to voltage-gated sodium channels (Nav), delaying their inactivation during signal transduction. Thus, it strongly stimulates mammalian cardiac muscle contraction. The recombinant peptide is provided in 50 mM NaHepes buffer, pH 7.5, 300 mM NaCl, at a 0.1 mg/mL concentration.

Purity

Delta-stichotoxin-Hcr1a venom peptide is produced recombinantly and subjected to a variety of highly stringent purification protocols to reach a degree of purity > 90%, as evaluated by SDS-PAGE and ESI-Q-ToF-MS.

Recombinant Peptide sequence

GNCKCDDEGPYVRTAPLTGYVDLGYCNEGWEKCASYYSPIAECCRKKK

Specifications

Peptide Length	48 aa
Molecular weight	5386 Da
Number of Cys	6
Disulfide bonds	Cys^{3}-Cys^{43}, Cys^{5}-Cys^{33}, Cys^{26}-Cys^{44}
Source	Recombinant peptide from *Heteractis crispa*
Format provided	Liquid
Uniprot Access	P30832
PDB Code	Not available

Storage Temperature

Delta-stichotoxin-Hcr1a venom peptide should be stored at 4°C and is stable for 12 months.

Reference

Biological and biochemical properties of this peptide are describe in Zykova,T.A. *et al.*, Bioorg. Khim. 11, 302-310 (1985).

Quality Control Assays

Purity

Recombinant Delta-stichotoxin-Hcr1a venom peptide is >90% pure as judged by SDS polyacrylamide gel electrophoresis followed by BlueSafe staining (MB15201).

Molecular weight determination

To confirm molecular weight, oxidation pattern, molecular integrity and degree of purification, the recombinant peptide was analysed through ElectroSpray Ionization Quadrupole Time-of-Flight Mass Spectrometry (ESI-Q-ToF-MS) using a Synapt G2 HDMS (Waters) instrument. The resulted mass spectra was deconvoluted using MassLynx software and the obtained mass was compared with the theoretical peptide mass considering that all cysteine residues are oxidized.

V1901

Certificate of Analysis

Test	Result
Peptide purity	Pass

Approved by:

Patrícia Ponte
Senior Manager, Quality Systems

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Estrada do Paço do Lumiar, Campus do Lumiar - Edifício E, R/C, 1649-038 Lisboa, Portugal Tel.: +351.213643514 Fax: +351.217151168
www.nzytech.com