Kunitz-type kappaPI-theraphotoxin-Hs1a, recombinant venom peptide (*Haplopelma schmidti*)

Catalogue number: VP0021, 50 µg
(0.5 mL at 0.1 mg/mL)

Description

Kunitz-type kappaPI-theraphotoxin-Hs1a venom peptide is a recombinant peptide purified from *Escherichia coli* that was originally isolated from the venom of *Haplopelma schmidti* (Chinese bird spider). Yuan *et al*. described the endogenous venom peptide as a potent inhibitor of serine proteases (trypsin). Besides serine protease inhibition, this peptide has also the ability to block ion channels, specifically the voltage-gated potassium channels, which are essential for regulation of several physiological processes. This peptide is also known as Huwentoxin-XI or Kunitz-type serine protease inhibitor huwentoxin-11. The recombinant peptide is provided in 50 mM NaHepes buffer, pH 7.5, 300 mM NaCl, at a 0.1 mg/mL concentration.

Purity

Kunitz-type kappaPI-theraphotoxin-Hs1a 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

IDTCRLPSDRGRCKASFERWYFNGRTCAKFIYGGCGGNGNKFPTQEACM
KRCAKA

Specifications

Peptide Length	55 aa
Molecular weight	6172 Da
Number of Cys	6
Disulfide bonds	Cys^{37}-Cys^{85}, Cys^{46}-Cys^{68}, Cys^{60}-Cys^{81}
Source	Recombinant peptide from *Haplopelma schmidti*
Format provided	Liquid
Uniprot Access	P68425
PDB Code	2JOT

Storage Temperature

Kunitz-type kappaPI-theraphotoxin-Hs1a venom peptide should be stored at 4°C and is stable for 12 months.

Reference

Biological and biochemical properties of this peptide are described in Yuan, C.H. *et al*., PLoS ONE 3 (10), e3414 (2008).

Quality Control Assays

Purity

Recombinant Kunitz-type kappaPI-theraphotoxin-Hs1a 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.

V2101

Certificate of Analysis

Test	Result
Peptide purity	Pass

Approved by:

Patrícia Ponte
Senior Manager, Quality Systems

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