



# Insecticidal toxin LaIT1, recombinant venom peptide (*Liocheles australasiae*)

**Catalogue number:** VP0007, 50 µg  
(0.5 mL at 0.1 mg/mL)

## Description

Insecticidal LaIT1 venom peptide is a recombinant peptide purified from *Escherichia coli* that was originally isolated from the venom of *Liocheles australasiae* (Dwarf wood scorpion). The endogenous Insecticidal LaIT1 peptide affects the activity of both ryanodine-sensitive calcium-release channels RyR1 and RyR2. This venom peptide binds to different sites on the RyRs channels with high-affinity, mediating the full openings of these channels. Matsushita *et al.* described that insecticidal LaIT1 venom peptide has insect toxicity activity against crickets but no toxicity was observed against mice, suggesting that the effect of this toxin is insect-selective. The recombinant peptide is provided in 50 mM NaHepes buffer, pH 7.5, 300 mM NaCl, at a 0.1 mg/mL concentration.

## Purity

Insecticidal LaIT1 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

DFPLSKEYETCVRPRKCQPPLKCNKAQICVDPKKGW

## Specifications

|                  |   |
|------------------|---|
| Peptide Length   | 36 aa   |
| Molecular weight | 4207 Da   |
| Number of Cys    | 4   |
| Disulfide bonds  | Cys <sup>11</sup> -Cys <sup>23</sup> , Cys <sup>17</sup> -Cys <sup>29</sup> |
| Source           | Recombinant peptide from<br><i>Liocheles australasiae</i>                   |
| Format provided  | Liquid  |
| Uniprot Access   | P0C5F2  |
| PDB Code         | 2LDS  |

## Storage Temperature

Insecticidal LaIT1 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 Matsushita, N. *et al.*, Toxicon 50 (6), 861-867 (2007).

## Quality Control Assays

### Purity

Recombinant Insecticidal LaIT1 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:

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