

Beta-mammal/insect toxin Ts1 Protein, Tityus serrulatus, Recombinant (E. coli, His & Myc)

General Information

Synonyms:	TsTX-I;Toxin gamma (T-gamma;TiTx gamma;Toxin-g);Beta-mammal/insect toxin Ts1;Toxin T2-IV;Tityustoxin VII (Toxin VII;Ts VII;Ts7;TsTX-VII);PT-Mice-Ins-beta NaTx6.1;Toxin II-11;Toxin III-10;Beta-like toxin Ts1
Protein Construction:	21-81 aa
Species:	Tityus serrulatus
Expression Host:	E. coli
Accession:	P15226
Molecular Weight:	14.3 kDa (predicted)
AA Sequence:	KEGYLMDHEGCKLSCFIRPSGYCGRECGIKKGSSGYCAWPACYCYGLPNWVKVWDRATNKC

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Voltage-gated sodium channels (Nav) gating-modifier. Acts both as alpha- and beta-toxin, since it affects not only activation but also inactivation of Nav channels (Probable). Binds to Nav domain DII and impairs the four Nav channel voltage sensors movements. Depending on Nav channel subtypes tested, can also bind Nav domains DIII (low affinity) and DIV (very low affinity). Acts on almost all the Nav channels tested (mammalian Nav1.2/SCN2A, Nav1.3/SCN3A, Nav1.4/SCN4A, Nav1.5/SCN5A, Nav1.6/SCN8A, Nav1.9/SCN11A, and insect DmNav1). Is highly

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active against both mammals and insects. Irreversibly modulates DmNav channels. Other Ts1 activities have been studied, such as immunomodulation, antimicrobial activity or exocrine secretion (Probable). This toxin exhibits an antifungal activity against filamentous fungi. In vitro, it has an important immunomodulatory effect on macrophages by stimulating the release of proinflammatory cytokines. It also shows an activity in exocrine secretion in pancreas, stomach and adrenal gland.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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