Data Sheet (Cat.No.TMPH-03625)

TargetMol

Alpha-mammal toxin Ts2 Protein, Tityus serrulatus, Recombinant (His & Myc)

General Information

Synonyms:	P-Mice-beta* NaTx5.1;Alpha-mammal toxin Ts2;TsTX III-8;TsTX-III;Tityustoxin II (Toxin II;TsTX-II;Tst2);Toxin T1-IV
Protein Construction:	1-62 aa
Species:	Tityus serrulatus
Expression Host:	Baculovirus Insect Cells
Accession:	P68410
Molecular Weight:	10.9 kDa (predicted)
AA Sequence:	KEGYAMDHEGCKFSCFIRPAGFCDGYCKTHLKASSGYCAWPACYCYGVPDHIKVWDYATNKC

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/μg 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.

Actual storage temperature shall be subject to the COA.

Shipping:

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

Protein Background

Alpha toxins bind voltage-independently at site-3 of sodium channels (Nav) and inhibit the inactivation of the activated channels, thereby blocking neuronal transmission. This toxin acts on Nav1.2/SCN2A, Nav1.3/SCN3A, Nav1.5/SCN5A, Nav1.6/SCN8A and Nav1.7/SCN9A voltage-gated sodium channels, with the highest affinity for Nav1.3/SCN3A, followed by Nav1.6/SCN8A and Nav1.7/SCN9A which are affected almost equally. Interestingly, shows a significant shift of the voltage dependence of activation for Nav1.3/SCN3A that is characteristic of beta-toxins. In addition, in presence of LPS, this toxin inhibits the release of NO, IL-6 and TNF-alpha in J774.1 cells.

Further, in the absence of LPS, it stimulates the production of the anti-inflammatory cytokine IL-10. This toxin is active on mammals.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481