

Metalloprotease stcE Protein, E. coli O157:H7, Recombinant (His)

General Information

Synonyms:	Neutral zinc metalloprotease StcE;tagA;Mucinase;stcE;Secreted protease of C1 esterase inhibitor from EHEC;Metalloprotease StcE
Protein Construction:	296-551 aa
Species:	E. coli
Expression Host:	E. coli
Accession:	O82882
Molecular Weight:	32.3 kDa (predicted)
AA Sequence:	ELLHTIDIGMLTTPRDRDFDAKDEAHREYFQTIPVSRMIVNNYAPLHLKEVMLPTGELLTDMDPGNGGWHS GTMRQRIGKELVSHGIDNANYGLNSTAGLGENSHPYVVAQLAAHNSRGNYANGIQVHGGSGGGGIVTLDST LGNEFSHEVGHNHYGLGHYVDGFKGSVHRSAENNNSTWGDGDKKRFPNFYPSQTNEKSLNNQCQEPFD GHKFGFDAMAGGSPFSAANRFTMYTPNSSAIQRFFENKAVF

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:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

Virulence factor that contributes to intimate adherence of enterohemorrhagic E.coli (EHEC) O157:H7 to host cells. Is able to cleave the secreted human mucin 7 (MUC7) and the glycoprotein 340 (DMBT1/GP340). Also cleaves human C1 inhibitor (SERPING1), a regulator of multiple inflammatory pathways, and binds and localizes it to bacterial and host cell surfaces, protecting them from complement-mediated lysis. Therefore, the current model proposes two roles for StcE during infection: it acts first as a mucinase, allowing passage of EHEC through the oral cavity by cleaving the salivary glycoproteins that are responsible for bacterial aggregation. Similarly, in the colon, StcE cleaves the glycoproteins that protect the intestinal epithelial surface, allowing EHEC to come into close contact with host cell membranes. Secondly, it acts as an anti-inflammatory agent by localizing SERPING1 to cell membranes.

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