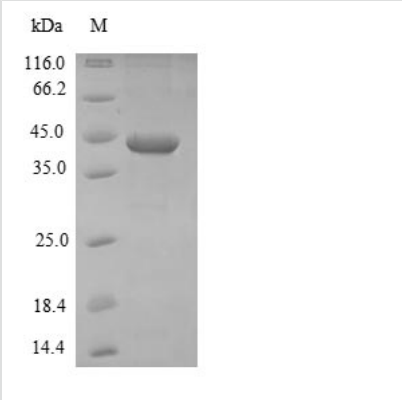
Recombinant Staphylococcus aureus Iron-regulated surface determinant protein B (isdB), partial

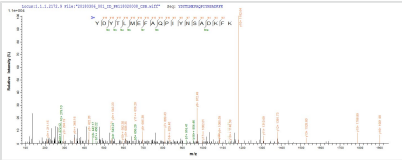
Product Code	CSB-EP313758SUM
Relevance	Seems to function as the primary receptor for hemoglobin since its inactivation inhibits the ability of S.aureus to bind hemoglobin. Binds hemoglobin in a dose-dependent way. Required for S.aureus growth using hemoglobin as the sole iron source. Also required for virulence. IsdA and/or IsdB promote resistance to hydrogen peroxide and killing by neutrophils (By similarity).
Abbreviation	Recombinant Staphylococcus aureus isdB protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P0C7J5
Alias	Fur-regulated protein B Staphylococcal iron-regulated protein H Staphylococcus aureus surface protein J
Product Type	Recombinant Protein
Immunogen Species	Staphylococcus aureus (strain USA300 / TCH1516)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	AAEETGGTNTEAQPKTEAVASPTTTSEKAPETKPVANAVSVSNKEVEAPTSETKEAKEVKEVKAPKETKEVKPAAKATNNTYPILNQELREAIKNPAIKDKDHSAPNSRPIDFEMKKKDGTQQFYHYASSVKPARVIFTDSKPEIELGLQSGQFWRKFEVYEGDKKLPIKLVSYDTVKDYAYIRFSVSNGTKAVKIVSSTHFNNKEEKYDYTLMEFAQPIYNSADKFKT
Research Area	Microbiology
Source	E.coli
Target Names	isdB
Protein Names	Recommended name: Iron-regulated surface determinant protein B Alternative name(s): Fur-regulated protein B Staphylococcal iron-regulated protein H Staphylococcus aureus surface protein J
Expression Region	41-269aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	41.6kDa

Protein Length Partial

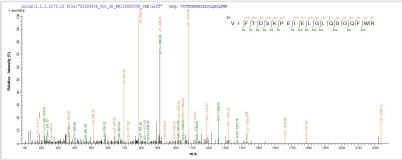
Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP313758SUM could indicate that this peptide derived from E.coli-expressed Staphylococcus aureus (strain USA300 / TCH1516) isdB.



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Description

The expression region of this recombinant Staphylococcus aureus isdB covers amino acids 41-269. The expected molecular weight for the isdB protein is calculated to be 41.6 kDa. The isdB protein was expressed in e.coli. The N-terminal 6xHis-SUMO tag was smoothly integrated into the coding gene of isdB, which enables a simple process of detecting and purifying the isdB recombinant protein in the following steps.

The iron-regulated surface determinant protein B (IsdB) in Staphylococcus aureus is a crucial virulence factor involved in iron acquisition, an essential process for bacterial survival and pathogenesis. IsdB is part of the ISD system, a complex iron-scavenging machinery that enables the bacterium to acquire heme from host hemoglobin. IsdB plays a key role in binding heme and extracting iron from it, facilitating the utilization of host hemoglobin as a nutrient source. The IsdB-mediated iron acquisition is crucial for the pathogen's ability to thrive in the host environment, as iron is a limiting nutrient in the human body. Understanding the mechanisms behind IsdB and the ISD system is valuable for developing strategies to interfere with Staphylococcus aureus infection and for the design of potential therapeutic interventions. Additionally, IsdB has been explored as a potential vaccine candidate due to its role in iron acquisition and its involvement in the host-pathogen interaction.

Reconstitution We recommend that this vial be briefly centrifuged prior to opening to bring the

	contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.