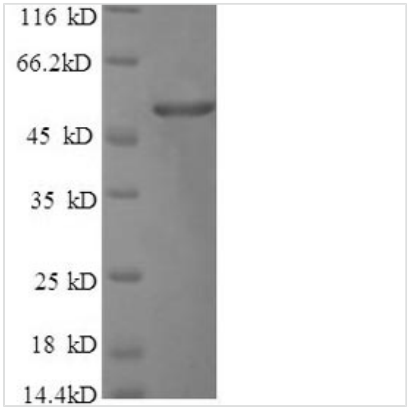
Recombinant Bacillus thuringiensis subsp. kurstaki Pesticidal crystal protein cry1Ac (cry1Ac), partial

Product Code	CSB-EP356448BDC
Relevance	Promotes colloidosmotic lysis by binding to the midgut epithelial cells of many lepidopteran larvae.
Abbreviation	Recombinant Bacillus thuringiensis subsp. kurstaki cry1Ac 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.	P05068
Alias	133 kDa crystal protein;Crystaline entomocidal protoxinInsecticidal delta-endotoxin CryIA(c)
Product Type	Recombinant Protein
Immunogen Species	Bacillus thuringiensis subsp. kurstaki
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	LYDARNVIKNGDFNNGLSCWNVKGHVDVEEQNNQRSVLVVPEWEAEVSQEVRVCPGRGYILRVTAYKEGYGEGCVTIHEIENNTDELKFSNCVEEEIYPNNTVTCNDYTVNQEEYGGAYTSRNRGYNEAPSVPADYASVYEEKSYTDGRRENPCEFNRGYRDYTPLPVGYVTKELEYFPETDKVWIEIGETEGTFIVDSVELLLMEE
Research Area	Others
Source	E.coli
Target Names	cry1Ac
Expression Region	972-1178aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	50.8kDa
Protein Length	Partial
Image	



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

Description

The Recombinant kurstaki cry1Ac protein is a protein encoded by recombinant DNA that was cloned in an expression vector that supported the expression of cry1Ac gene. This recombinant cry1Ac protein was expressed in the host. The expression region is 972-1178aa of the kurstaki cry1Ac. In the production, the expression vector contains N-terminal GST tag. Every production step was performed with a strict QC system. The purity of this protein is 90%+ determined by SDS-PAGE.

The Cry1Ac protoxin, which is a delta-endotoxin produced during the sporulation phase of Bacillus thuringiensis, has been proposed as an effective and safe alternative adjuvant. When ingested by susceptible larvae, the crystal protein is solubilized and processed, generating the Cry1Ac toxin, which has been widely used as a bioinsecticide. The recombinant Cry1Ac protoxin is immunogenic and adjuvant at the systemic and mucosal level, which can activate antigen presenting cells (APCs) by upregulating costimulatory molecules and increasing the production of pro-inflammatory cytokines. It can confer protective immunity against distinct infection models and remarkably in a murine brucellosis model, it showed the capacity to induce both Th1 and TCD8+ cytotoxic lymphocyte responses, suggesting a potential utility to improve tumor immunity. Beyond this, a study found that a differential adjuvant capacity of Cry1Ac proteins to improve tumor immunity, being the effect of Cry1Ac protoxin outstanding compared with that of Cry1Ac toxin. In addition, Cry1Ac protoxin may confer therapeutic benefit when coadministered with doxorubicin.

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

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