

Datasheet for ABIN3118830

**HCST Protein (AA 19-93) (rho-1D4 tag)****1** Image[Go to Product page](#)

## Overview

Quantity:	1 mg
Target:	HCST
Protein Characteristics:	AA 19-93
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This HCST protein is labelled with rho-1D4 tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), Crystallization (Crys), ELISA

## Product Details

Sequence:	QTPGERSSL PAFYPGTSGS CSGCGSLSLP LLAGLVAADA VASLLIVGAV FLCARPRRSP AQEDGKVYIN MPGRG <b>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</b>
Characteristics:	<ul style="list-style-type: none"><li>• Made in Germany - from design to production - by highly experienced protein experts.</li><li>• Human HCST Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.</li><li>• State-of-the-art algorithm used for plasmid design (Gene synthesis).</li></ul> <p>This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.</p> <p>The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein</p>

## Product Details

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cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:	Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells:  <ol style="list-style-type: none"><li>1. Membrane proteins are fractionated by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot.</li><li>2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot.</li><li>3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.</li></ol>
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade

## Target Details

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Target:	HCST
Alternative Name:	HCST ( <a href="#">HCST Products</a> )
Background:	Transmembrane adapter protein which associates with KLRK1 to form an activation receptor KLRK1-HCST in lymphoid and myeloid cells, this receptor plays a major role in triggering cytotoxicity against target cells expressing cell surface ligands such as MHC class I chain-

## Target Details

related MICA and MICB, and UL16-binding proteins (ULBPs), these ligands are up-regulated by stress conditions and pathological state such as viral infection and tumor transformation. Functions as docking site for PI3-kinase PIK3R1 and GRB2. Interaction of ULBPs with KLRK1-HCST triggers calcium mobilization and activation of the PIK3R1, MAP2K/ERK, and JAK2/STAT5 signaling pathways. Both PIK3R1 and GRB2 are required for full KLRK1-HCST-mediated activation and ultimate killing of target cells. In NK cells, KLRK1-HCST signaling directly induces cytotoxicity and enhances cytokine production initiated via DAP12/TYROBP-associated receptors. In T-cells, it provides primarily costimulation for TCR-induced signals. KLRK1-HCST receptor plays a role in immune surveillance against tumors and is required for cytolysis of tumors cells, indeed, melanoma cells that do not express KLRK1 ligands escape from immune surveillance mediated by NK cells. {ECO:0000269|PubMed:10426994, ECO:0000269|PubMed:10528161, ECO:0000269|PubMed:11015446, ECO:0000269|PubMed:11777960, ECO:0000269|PubMed:12740575, ECO:0000269|PubMed:12740576, ECO:0000269|PubMed:16002667, ECO:0000269|PubMed:16339517, ECO:0000269|PubMed:16582911, ECO:0000269|PubMed:18097042}.

Molecular Weight: 8.7 kDa Including tag.

UniProt: [Q9UBK5](#)

## Application Details

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Comment: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

## Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

## Handling

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Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

## Images

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**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process