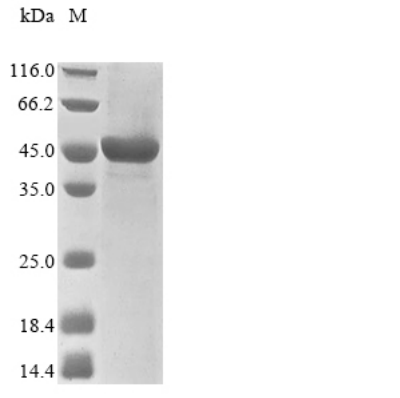
Recombinant Human Probable E3 ubiquitin-protein ligase HERC1 (HERC1), partial

Product Code	CSB-EP613601HU
Abbreviation	Recombinant Human HERC1 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.	Q15751
Form	Liquid or Lyophilized powder
Storage Buffer	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.
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	GMDEQIMSWATSRPEDWHLGGKCDVYLWGAGRHGQLAEAGRNVMVPAAAP SFSQAQQVICGQNCTFVIQANGTVLACGEGSYGRLGQGNSDDLHVLTVISALQ GFVVTQLVTSCGSDGHSMALTESGEVFSWGDGDYGKLGHGNSDRQRRPRQI EALQGEEVVQMSCGFKHSAVVTSDGKLFTFGNGDYGRLGLGNTSNKKLPERV TALEGYQIGQVACGLNHTLAVSADGSMVWAFGDGDYGKLGLGNSTAKSSPQ KIDVLCGIGIKKVACGTQFSVALTKDGHVYTFGQDRLIGLPEGRARNHNRPQQI PVLAGVIIEDVAVGAEHTLALASNGDVYAWGSNSEGQLGLGHTNHVREPTLVT GLQGKNVRQISAGRCHSAAWTA
Research Area	Others
Source	E.coli
Target Names	HERC1
Protein Names	Recommended name: Probable E3 ubiquitin-protein ligase HERC1 EC= 6.3.2.- Alternative name(s): HECT domain and RCC1-like domain-containing protein 1 p532 p619
Expression Region	3975-4360aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	48.1 kDa
Protein Length	Partial
Image	



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

Description

Recombinant Human Probable E3 ubiquitin-protein ligase HERC1 is produced in an E.coli expression system. The protein features a 10xHis-tag at the N-terminus and a Myc tag at the C-terminus. This partial protein covers amino acids 3975-4360 and reaches a purity level greater than 85%, as confirmed by SDS-PAGE analysis. It's designed for research purposes and appears to offer a solid tool for studying protein interactions and modifications, with low endotoxin levels that may be beneficial for cell-based studies.

HERC1 belongs to the ubiquitin-protein ligase family. It seems to play an important role in the ubiquitination process, which targets proteins for degradation through the proteasome pathway. This protein likely participates in various cellular pathways and processes, which makes it particularly interesting for research into protein regulation and cellular homeostasis. Studying HERC1 could potentially improve our understanding of cellular mechanisms and how proteins are managed throughout their lifecycle.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Validation

This recombinant HERC1 fragment (amino acids 3975-4360) may work well as an immunogen for creating specific antibodies against HERC1's C-terminal region. The dual His and Myc tags make purification and detection more straightforward during antibody screening. Scientists can potentially use this protein fragment to test antibody specificity through Western blot, ELISA, and immunoprecipitation assays. The high purity level (greater than 85%) suggests reliable antigen presentation for both polyclonal and monoclonal antibody production, though results may vary depending on the immunization protocol.

2. Protein-Protein Interaction Studies

The His and Myc tags should allow for pull-down assays to identify potential binding partners that interact with this particular C-terminal domain of HERC1. Scientists can immobilize the tagged protein on suitable matrices and then screen cell lysates or protein libraries for interacting molecules. This strategy appears especially useful for mapping the interaction network of HERC1's C-terminal region, which might contain important regulatory or substrate recognition domains—though the functional significance of identified interactions would need further validation.

3. Structural and Biochemical Characterization

This defined protein fragment offers a manageable substrate for biophysical studies. These might include circular dichroism spectroscopy, dynamic light scattering, and analytical ultracentrifugation to examine its folding properties and oligomerization state. The tags help with protein detection and quantification during purification and analysis steps. Scientists can explore the stability, solubility, and conformational properties of this HERC1 domain under different buffer conditions and temperatures, though the behavior of this fragment may not fully represent the full-length protein.

4. ELISA-Based Quantitative Assays

The dual-tagged HERC1 fragment could serve as a standard or control protein in sandwich ELISA assays for detecting and measuring HERC1 levels in biological samples. The His tag permits oriented immobilization on nickel-coated plates, while the Myc tag provides an additional detection epitope. This application appears useful for researchers studying HERC1 expression levels across different cell types, developmental stages, or disease conditions in preclinical research settings, although antibody cross-reactivity and sample matrix effects would need careful consideration.

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.