
MATERIAL DATA SHEET

Recombinant Human CHIP/STUB1**Cat. # E3-220**

STIP1 Homology and U-box Containing Protein 1 (STUB1), also known as Carboxyl Terminus of Hsp70-interacting Protein (CHIP), is a cytoplasmic protein that functions as a U-box Ubiquitin ligase (E3) (1). It is highly expressed in striated muscle and brain and has been observed at lower levels in other organs including the pancreas, lung, liver, and kidney (2,3). STUB1/CHIP is 303 amino acids (aa) in length with a predicted molecular weight of 34.8 kDa (2). Human STUB1/CHIP shares 97% aa sequence identity with the mouse ortholog but only 67% sequence identity with the rat ortholog (2). It consists of three 34 aa N-terminal tetratricopeptide repeat (TRP) domains (aa 26-127) that are responsible for protein-protein interactions and a C-terminal U-box domain (aa 226-300) that participates in ubiquitination (1,4,5). A central domain containing charged residues lies between the TRP and U-box domains and is thought to be necessary for TRP-dependent interactions (3). STUB1/CHIP participates in intracellular protein folding/refolding and degradation. It complexes with several molecular chaperone proteins, including HSP70/HSPA1A, HSC70, and HSP90, and modulates their activity (2,3,5,6). It also facilitates the ubiquitination of chaperone substrates, including nascent CFTR, phosphorylated Tau, p53, PTEN, Synuclein- α , and β -APP, promoting their degradation (5,7-11). This recombinant human protein contains a C-terminal His₆ tag.

Product Information

Quantity:	50 μ g
MW:	36 kDa
Source:	<i>E. coli</i> -derived Accession # Q9UNE7 Contains a C-terminal 6-His tag
Stock:	X mg/ml (X μ M) in 50 mM HEPES pH 8.0, 100 mM NaCl, 10% Glycerol (v/v), 5 mM DTT
Purity:	>90%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Use & Storage

Use: Recombinant Human CHIP/Stub1 is a Ubiquitin ligase (E3) that functions downstream of a Ubiquitin-activating (E1) enzyme and a Ubiquitin-conjugating (E2) enzyme to conjugate Ubiquitin to substrate proteins. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human CHIP/Stub1 concentration of 0.1-5 μ M.

Storage: Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -70 °C as supplied.
- 3 months, -70 °C under sterile conditions after opening.

Literature

References:

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