

MATERIAL DATA SHEET

Recombinant Human UCH-L1/PGP9.5

Cat. # E-340

Ubiquitin Carboxyl-terminal Esterase L1 (UCH-L1), also known as PGP 9.5, is a deubiquitinating enzyme with a predicted molecular weight of 25 kDa (1). The human protein shares 95% amino acid sequence identity with its mouse and rat orthologs. UCH-L1 is expressed abundantly in neurons, accounting for 1-2% of total soluble proteins in the brain (2). It localizes primarily to the cytoplasm, but a subpopulation has been shown to be transiently nuclear (3,4). UCH-L1 contains two catalytic residues, Cys90 and His161, which are required for isopeptide bond cleavage at the C-terminal glycine residue of Ubiquitin (5). The levels of free Ubiquitin appear to be partially regulated by UCH-L1 through the hydrolysis of small Ubiquitin chains and the stabilization of monomeric Ubiquitin (6). Mice lacking functional UCH-L1 show neuronal dysfunction and neurodegeneration, and mutations in this enzyme have been linked to Parkinson's disease, suggesting that it is important for proper central nervous system function (7,8). UCH-L1 also likely plays a complex role in cancer. It has been reported to function as an oncogene in lymphoma, colorectal cancer, and nonsmall cell lung carcinoma (9-11). In contrast, it is thought to function as a tumor suppressor protein in nasopharyngeal and breast cancers (12,13).

Product Information

Quantity:	25 µg
MW:	25 kDa
Source:	<i>E. coli</i> -derived Accession # P09936
Stock:	X mg/ml (X µM) in 50 mM HEPES pH 8.0, 100 mM NaCl, 1 mM EDTA, 2 mM DTT
Purity:	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Use & Storage

- Use:** Recombinant Human UCH-L1 is a Ubiquitin-specific deconjugating enzyme. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human UCH-L1 concentration of 10-50 nM. A 15 minute pre-incubation with 10 mM DTT is recommended to achieve maximum activity.
- 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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