



# Recombinant Protein Technical Manual

## Recombinant Human UCHL1/PGP9.5 Protein (His Tag)(Active)

RPES1003

### Product Data:

**Product SKU:** RPES1003

**Size:** 20µg

**Species:** Human

**Expression host:** E. coli

**Uniprot:** NP\_004172.2

### Protein Information:

**Molecular Mass:** 25.6 kDa

**AP Molecular Mass:** 25.6 kDa

**Tag:** N-His

**Bio-activity:** Measured by the hydrolysis of UbiquitinAMC. The specific activity is >100 pmoles/min/µg.

**Purity:** > 92 % as determined by reducing SDS-PAGE.

**Endotoxin:** Please contact us for more information.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile 20mM Tris, 500mM NaCl, 20% glycerol, 1mM DTT, pH 8.0

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Ubiquitin Carboxyl-Terminal Hydrolase Isozyme L1; UCH-L1; Neuron Cytoplasmic Protein 9.5; PGP 9.5; PGP9.5; Ubiquitin Thioesterase L1; UCHL1;HEL17;NDGOA;PARK5;Uch-L1

## Immunogen Information:

**Sequence:** Gln 2-Ala 223

## Background:

Ubiquitin carboxyl-terminal hydrolase isozyme L1, also known as UCH-L1, Ubiquitin thioesterase L1, PGP9.5 and UCHL1, is a deubiquitinating enzyme with important functions in recycling of ubiquitin. Regulated proteolysis by the ubiquitin pathway has been implicated in control of the cell cycle, transcriptional activation, cell fate and growth, and synaptogenesis. The ubiquitin-proteasome system is involved in synaptic plasticity and is proposed to be part of a molecular switch that converts short-term synaptic potentiation to long-term changes in synaptic strength. UCHL1 is found in neuronal cell bodies and processes throughout the neocortex (at protein level). It is expressed in neurons and cells of the diffuse neuroendocrine system and their tumors. UCHL1 is weakly expressed in ovary. UCHL1 is a ubiquitin-protein hydrolase. It is involved both in the processing of ubiquitin precursors and of ubiquitinated proteins. This enzyme is a thiol protease that recognizes and hydrolyzes a peptide bond at the C-terminal glycine of ubiquitin. UCHL1 also binds to free monoubiquitin and may prevent its degradation in lysosomes. The homodimer of UCHL1 may have ATP-independent ubiquitin ligase activity. UCHL1 dysfunction has been associated with neurodegeneration in Parkinson's, Alzheimer's, and Huntington's disease patients. Reduced UCHL1 function may jeopardize the survival of CNS neurons.