

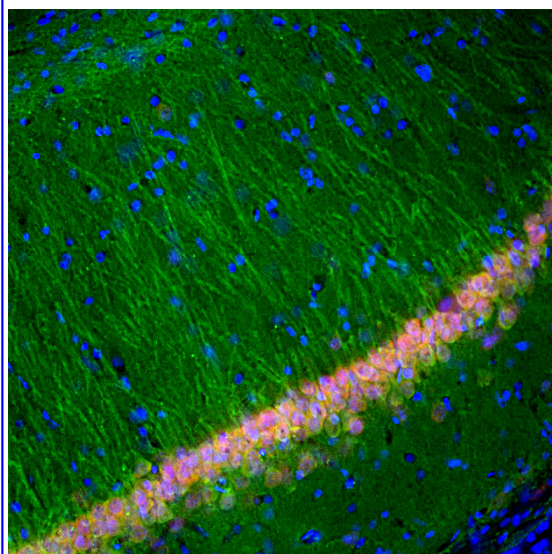
**Ordering Information**  
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**HGNC Name:** UCHL1  
**UniProt:**  
**RRID:** Pending  
**Immunogen:**  
**Format:**  
**Storage:**  
**Recommended dilutions:**

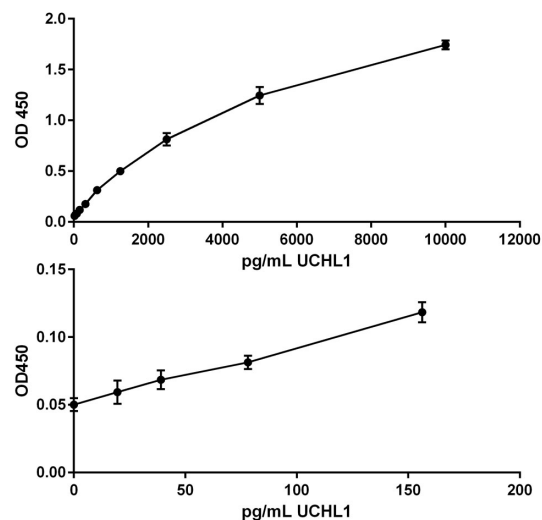
## References:

1. Doran JF, Jackson P, Kynoch PA, Thompson RJ. Isolation of PGP 9.5, a new human neurone-specific protein detected by high-resolution two-dimensional electrophoresis. *J. Neurochem.* 40:1542-7 (1983). 2. Wilkinson KD, Lee KM, Deshpande S, Duerksen-Hughes P, Boss JM, Pohl J. The neuron-specific protein PGP 9.5 is a ubiquitin carboxyl-terminal hydrolase. *Science.* 1989 246:670-3 (1989). 3. Liu Y, Fallon L, Lashuel HA, Liu Z, Lansbury PT Jr. The UCH-L1 gene encodes two opposing enzymatic activities that affect alpha-synuclein degradation and Parkinson's disease susceptibility. *Cell* 111:209-18 (2002). 4. Day IN, Thompson RJ. UCHL1 (PGP 9.5): Neuronal biomarker and ubiquitin system protein. *Prog. Neurobiol.* 90:327-62 (2009).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
CSF and blood analysis				



Immunofluorescent analysis of rat hippocampal section stained with mouse mAb to UCHL1, MCA-BH7, dilution 1:5,000 in green and costained with rabbit pAb to FOX/NeuN, *RPCA-FOX3*, dilution 1:2,000, in red. The blue is DAPI staining of nuclear DNA. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45µm, and free-floating sections were stained with above antibodies. The UCHL1 antibody stains the cell body and dendrites of hippocampal neurons, while the FOX3 antibody labels nuclei of the neuronal cells.



Standards run in duplicate on UCHL1 ELISA, upper graph showing the whole range of the assay, lower showing the lower range.

## Background:

Ubiquitin C-terminal hydrolase 1 (UCHL1) was originally identified as a major component of the neuronal cytoplasm from 2-dimensional gel analysis of brain tissues, and was given the name PGP9.5 (1). The protein is extremely abundant and claimed to represent 1-2% of total brain protein (2). It was later found that an ubiquitin C-terminal hydrolase enzyme activity was associated with the PGP9.5 protein, resulting in the renaming of PGP9.5 to UCHL1. UCHL1 is one of the numerous deubiquitinating enzymes and is expressed in the CNS only in neuronal cells. This protein leaks into blood and CSF following various kinds of neuronal damage. As a result detection of this protein in blood or CSF, which can be performed with the EnCor assay, is a useful surrogate marker of ongoing neuronal damage. See [here](#) for the manual.

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## Abbreviation Key:

**mAb**—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry  
**IHC**—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken  
**Dr**—*D. rerio* **Dm**—*D. melanogaster* **Sm**—*S. mutans* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli*.