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# PGP9.5 / UchL1 (pan-Neuronal Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone SPM575 ]
Catalog # AH10804

## Product Information

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| **Application** | WB, IF |
| **Primary Accession** | P09936 |
| **Other Accession** | 7345, 518731 |
| **Reactivity** | Human, Mouse, Rat, Rabbit, Zebrafish, Pig, Bovine, Sheep, Guinea Pig, Dog |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | Mouse / IgG2a, kappa |
| **Clone Names** | SPM575 |
| **Calculated MW** | 24824 |

## Additional Information

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| **Gene ID** | 7345 |
| **Other Names** | Ubiquitin carboxyl-terminal hydrolase isozyme L1, UCH-L1, 3.4.19.12, 6.-.-.-, Neuron cytoplasmic protein 9.5, PGP 9.5, PGP9.5, Ubiquitin thioesterase L1, UCHL1 |
| **Application Note** | WB~~1:1000 IF~~1:50~200 |
| **Format** | 200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml. |
| **Storage** | Store at 2 to 8°C.Antibody is stable for 24 months. |
| **Precautions** | PGP9.5 / UchL1 (pan-Neuronal Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | UCHL1 |
| **Function** | Deubiquitinase that plays a role in the regulation of several processes such as maintenance of synaptic function, cardiac function, inflammatory response or osteoclastogenesis (PubMed:22212137, PubMed:23359680). Abrogates the ubiquitination of multiple proteins including WWTR1/TAZ, EGFR, HIF1A and beta-site amyloid precursor protein cleaving enzyme 1/BACE1 (PubMed:22212137, PubMed:25615526). In addition, recognizes and hydrolyzes a peptide bond at the C-terminal glycine of ubiquitin to maintain a |

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| | stable pool of monoubiquitin that is a key requirement for the ubiquitin-proteasome and the autophagy- lysosome pathways (PubMed:12408865, PubMed:8639624, PubMed:9774100). Regulates amyloid precursor protein/APP processing by promoting BACE1 degradation resulting in decreased amyloid beta production (PubMed:22212137). Plays a role in the immune response by regulating the ability of MHC I molecules to reach cross-presentation compartments competent for generating Ag-MHC I complexes (By similarity). Mediates the 'Lys-48'-linked deubiquitination of the transcriptional coactivator WWTR1/TAZ leading to its stabilization and inhibition of osteoclastogenesis (By similarity). Deubiquitinates and stabilizes epidermal growth factor receptor EGFR to prevent its degradation and to activate its downstream mediators (By similarity). Modulates oxidative activity in skeletal muscle by regulating key mitochondrial oxidative proteins (By similarity). Enhances the activity of hypoxia-inducible factor 1-alpha/HIF1A by abrogateing its VHL E3 ligase-mediated ubiquitination and consequently inhibiting its degradation (PubMed:25615526). |
| **Cellular Location** | Cytoplasm. Endoplasmic reticulum membrane; Lipid- anchor. Note=About 30% of total UCHL1 is associated with membranes in brain. Localizes near and/or within mitochondria to potentially interact with mitochondrial proteins {ECO:0000250\|UniProtKB:Q9R0P9} |
| **Tissue Location** | Found in neuronal cell bodies and processes throughout the neocortex (at protein level). Expressed in neurons and cells of the diffuse neuroendocrine system and their tumors. Weakly expressed in ovary. Down-regulated in brains from Parkinson disease and Alzheimer disease patients. |

## Background

This MAb reacts with a protein of 20-30kDa, identified as PGP9.5, also known as ubiquitin carboxyl-terminal hydrolase-1 (UchL1). Initially, PGP9.5 expression in normal tissues was reported in neurons and neuroendocrine cells but later it was found in distal renal tubular epithelium, spermatogonia, Leydig cells, oocytes, melanocytes, prostatic secretory epithelium, ejaculatory duct cells, epididymis, mammary epithelial cells, Merkel cells, and dermal fibroblasts. Furthermore, immunostaining for PGP9.5 has been shown in a wide variety of mesenchymal neoplasms as well. A mutation in PGP9.5 gene is believed to cause a form of Parkinson's disease.

## References

Day IN et. al. Biochem Society Trans 14:350-351 (1986

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.