PGP9.5 monoclonal antibody

Catalog: MB66672 Host: Mouse Reactivity: Human

BackGround:

Protein ubiquitination and deubiquitination are reversible processes catalyzed by ubiquitinating enzymes (UBEs) and deubiquitinating enzymes (DUBs). DUBs are categorized into 5 subfamilies: USP, UCH, OTU, MJD, and JAMM. UCHL1, UCHL3, UCHL5/UCH37, and BRCA-1-associated protein-1 (BAP1) belong to the ubiquitin carboxy-terminal hydrolase (UCH) family of DUBs, which all possess a conserved catalytic UCH domain of about 230 amino acids. UCHL5 and BAP1 have unique, extended carboxy-terminal tails. UCHL1 is abundantly expressed in neuronal tissues and testes, while UCHL3 expression is more widely distributed. Although UCHL1 and UCHL3 are the most closely related UCH family members with about 53% identity, their biochemical properties differ in that UCHL1 binds monoubiquitin and UCHL3 shows dual specificity toward both ubiquitin (Ub) and NEDD8, a Ub-like molecule. UCHL1 (PGP 9.5/PARK5) functions as a deubiquitinating enzyme and monoubiquitin stabilizer. In vitro studies have demonstrated that UCHL1 can hydrolyze isopeptide bonds between the carboxy-terminal glycine of Ub and the ε-amino group of lysine on target proteins. UCHL1 is also involved in the cotranslational processing of pro-ubiquitin and ribosomal proteins translated as ubiquitin fusions. Mice deficient in UCHL1 experience spasticity, suggesting that UCHL1 activity is required for the normal neuromuscular junction structure and function. Research studies have described loss of UCHL1 expression in numerous human malignancies, such as prostate, colorectal, renal, and breast carcinomas. Investigators have shown that loss of UCHL1 expression in breast carcinomas can be attributed to hyper-methylation of the UCHL1 gene promoter. While loss of UCHL1 expression is implicated in human carcinogenesis, mutation of UCHL1 has been implicated in neurodegenerative diseases such as Parkinson's and Alzheimer's.

Product:

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.

Molecular Weight:

~ 25 kDa

Swiss-Prot:

P09936

Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

Applications:

WB (1/500 - 1/1000), IF/ICC (1/50 - 1/100)

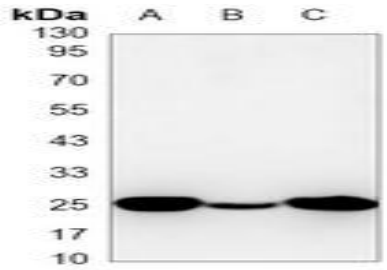
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

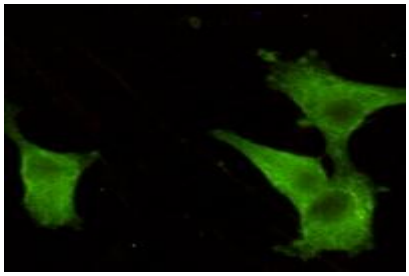
Specificity:

Recognizes endogenous levels of PGP9.5 protein.

DATA:



Western blot analysis of PGP9.5 expression in U251MG (A), Raji (B), IMR32 (C) whole cell lysates.



Immunofluorescent analysis of PGP9.5 staining in COS7 cells. Forma-

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lin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 ℃ in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark.

Note:

For research use only, not for use in diagnostic procedure.

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