

Background

The Nedd4-like family of E3 ubiquitin ligases have been implicated in several types of human cancer. There are nine members of the Nedd4-like E3 family, all of which have an N-terminal C2 domain, two to four WW domains in the central region, and a C-terminal domain that is homologous to the C-terminus of E6-AP. This ubiquitin ligase family includes NEDD4-1, NEDD4-2, AIP4/Itch, AIP5/WWP1, SMURF1 and SMURF2. Several ubiquitin ligases in this family are overexpressed in human cancers. WWP1 has been implicated as an oncogene as it is overexpressed in prostate and breast cancers, and knockdown of this ligase reduces cell proliferation and causes apoptosis. In addition, WWP1 has been shown to negatively regulate transforming growth factor- β (TGF β) signaling by targeting TGF β receptor 1, Smad2, and Smad4 for ubiquitin-mediated degradation. WWP1 has also been shown to regulate the protein levels of the epithelial sodium channel (ENaC), Notch, EGFR/ErbB2, Runx2, KLF2, KLF5, p53 and p63. Thus, WWP1 may regulate cell development and proliferation through the degradation of proteins involved in a variety of cell signaling pathways.

Background References

Pirozzi, G. et al. (1997) J. Biol. Chem. 272:14611.
Komuro, A. et al. (2004) Oncogene 23:6914.
Chen, C. et al. (2005) J. Biol. Chem. 280(50):41553.

Applications

Blocking 1:1000
ELISA 50 ng/well

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Specificity

The peptide is specifically recognized by anti-WWP1 (N-terminus) antibody (WP3931) in ELISA, and has been shown to block the reactivity of WP3931 during Western blot. In addition, the peptide is recommended for use in blocking WP3931 reactivity in immunocytochemistry.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Peptide Sequence

WWP1 synthetic peptide corresponds to amino acids in the N-terminus of human WWP1. This sequence is highly conserved in rat and mouse WWP1, and has low homology to other NEDD4-like family members.

Buffer and Storage

Blocking peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.
Store at -20°C. Stable for 1 year.

Related Products

AK6060 Actin & Tubulin Antibody Sampler Kit
AP2041 Atrogin-1 Rabbit Polyclonal
EK6160 EGFR Phospho-Regulation Antibody Sampler Kit
MP3401 MuRF1 (C-terminal region) Rabbit Polyclonal
MK6170 Muscle Atrophy Ubiquitin Ligase Antibody Sampler Kit

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