Revision 1

Store at -20C

#14321

NAE1/APPBP1 (D9I4Z) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	Endogenous	60	Rabbit IgG	#Q13564	8883

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

NAE1/APPBP1 (D9I4Z) Rabbit mAb recognizes endogenous levels of total NAE1/APPBP1 protein. This antibody does not cross-react with E1 activating enzymes for either ubiquitin or other ubiquitin-like proteins.

Species predicted to react based on 100% sequence homology

Bovine, Dog

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala179 of human NAE1/APPBP1 protein.

Background

Similar to ubiquitin, NEDD8 is covalently linked to target proteins through an enzymatic cascade composed of NEDD8-specific E1 (activating)- and E2 (conjugating)-enzymes (1,2). The E2 ligase specific for NEDD8 is Ubc12 (3-5). Ubc12 forms a heterodimeric conjugate with NEDD8 in order to catalyze the transfer of NEDD8 from E1 to lysine side chains of target proteins (1,2). Well known targets of NEDD8 are cullin-based RING E3 ligases. Neddylation of cullin isoforms activates the related ubiquitin E3 complex by promoting its interaction with a cognate ubiquitin-E2 ligase (6-7). Neddylation of Cul-1 complexes containing βTrCP and SKP2 has been shown to be required for controlling the stability of important signaling targets such as IκB, NF-κB, and p27 Kip (8-10), thereby regulating cell cycle progression, signaling cascades, and developmental programming processes (11).
NAE1/APPBP1 (NEDD8-Activating Enzyme 1/Amyloid Beta Precursor Protein Binding Protein 1) exists in a heterodimeric complex with UBA3. This complex functions as an E1 NEDD8-activating enzyme, which utilizes ATP to adenylate the C-terminal glycine of NEDD8 (12-14). Research studies suggest that inhibition of the APPBP1-UBA3 complex may be of therapeutic value for the treatment of human cancers (15,16).

Background References

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13. Walden, H. et al. (2003) *Nature* 422, 330-4.
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Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

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Limited Uses