

Active Recombinant Human NAE1/UBA3

Cat. No. NAE1-168H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human NAE1 (amino acid residues 3-536) and UBA3 (amino acid residues 22-463), was co-expressed in Insect sf21.
Species	Human
Source	Insect Cells
ProteinLength	3-536;22-463 a.a.
Description	SAE1/SAE2 is a SUMO1, 2 and 3 E1 activating enzyme and functions as a heterodimer. Cloning of the human SAE1 and SAE2 genes was first described by Desterro et al. (1999). SAE1 and SAE2 share sequence similarity to the N-terminus and C-terminus of ubiquitin E1 activating enzymes respectively (Desterro et al. 1999). SAE2 harbours the E1-like active cysteine site while SUMO1 transfer to the E2 conjugating enzyme UBE2I requires both of the SAE subunits (Desterro et al. 1999). A crystal structure of the SAE1/SAE2 dimer together with the SUMO1 adenylate has been solved at 2.45 Å resolution (Olsen et al. 2010).
Form	50 mM HEPES pH 7.5, 150 mM sodium chloride, 2 mM dithiothreitol, 10% glycerol
Bio-activity	E1 Thioester NEDD8 Loading Assay: The activity of APP-BP1/UBA3 was validated by loading NEDD8 onto the active cysteine of APP-BP1/UBA3. Incubation of the APP-BP1/UBA3 enzyme in the presence of NEDD8 and ATP at 30°C was compared at two time points, T0 and T10 minutes. Sensitivity of the NEDD8 / APP-BP1/UBA3 thioester bond to the reducing agent DTT was confirmed.

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Molecular Mass	APP-BP1 = 60.46 kDa UBA3 = 49.35 kDa
Purity	>98% by SDS-PAGE
Storage	12 months at -70°C. Avoid multiple freeze/thaw cycles.
Concentration	0.5 mg/ml

GENE INFORMATION

Gene Name	NAE1 NEDD8 activating enzyme E1 subunit 1 [Homo sapiens]
Official Symbol	NAE1
Synonyms	NAE1; NEDD8 activating enzyme E1 subunit 1; amyloid beta precursor protein binding protein 1 , amyloid beta precursor protein binding protein 1, 59kDa , amyloid beta precursor protein binding protein 1, 59kD , APPBP1; NEDD8-activating enzyme E1 regulatory subunit; NEDD8 activating enzyme E1 subunit; ula 1; APP-BP1; protooncogene protein 1; proto-oncogene protein 1; amyloid protein-binding protein 1; NEDD8-activating enzyme E1 subunit; amyloid beta precursor protein-binding protein 1, 59kD; amyloid beta precursor protein binding protein 1, 59kDa; amyloid beta precursor protein-binding protein 1, 59 kDa; HPP1; ula-1; APPBP1; A-116A10.1;
Gene ID	8883
mRNA Refseq	NM_001018159
Protein Refseq	NP_001018169
MIM	603385

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UniProt ID	Q13564
Chromosome Location	16q22
Pathway	Alzheimers disease, organism-specific biosystem; Alzheimers disease, conserved biosystem;
Function	contributes_to NEDD8 activating enzyme activity; catalytic activity; nucleotide binding; protein binding; protein heterodimerization activity;

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