

NEDD8 E1 Activating enzyme

Cat. # NE101

Background

NEDD8 is an ubiquitin-like protein that is covalently conjugated to selected cellular proteins, including tumor suppressors p53 and VHL and members of cullin ubiquitin E3 ligase family in a manner analogous to ubiquitylation. Conjugation of mature NEDD8 to specific lysine residues on target proteins allows NEDD8 to play a critical regulatory role in cell proliferation and development. The NEDD8 activating E1 enzyme is a heterodimer composed of APPBP1 and UBA3 subunits. The APPBP1/UBA3 enzyme has homology to the N- and C-terminal halves of the ubiquitin E1 enzyme, respectively. The UBA3 subunit contains the catalytic center and activates NEDD8 in an ATP-dependent reaction by forming a high-energy thiolester intermediate. The activated NEDD8 is subsequently transferred to the [UbcH12](#) E2 enzyme, and is then conjugated to specific substrates in the presence of the appropriate E3 ligases.

Synonyms

APPBP1/Uba3

Application(s)

For use in NEDD8 conjugation reactions and NEDDylation pathway studies

Product Specifications

Affinity Tag	His6
Purity	≥ 80% estimated by SDS-PAGE
Molecular Weight	61kDa and 54kDa
Quantity	50 µg
Species	Human
Expression System	<i>E. Coli</i>
Physical State	Liquid
Buffer	50mM Tris Buffer, pH 8.0, 150mM NaCl, 10% glycerol
Activity	1-100nM is used for the <i>in vitro</i> conjugation
Stability & Storage	1 year at -80°C. Avoid repeated freeze/thaw cycles.

References

1. Gong, L., et al., J. Biol. Chem. (1999) 274 (17): 12036–42.
2. Lake M.W., et al., Nature., 2001. 414:325-328.
3. Hemelaar J., et al., Mol. Cell. Biol. 24:84-95.