

Lot # XXXXX

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MATERIAL DATA SHEET

Ubiquitin Activating Enzyme (UBE1), *human recombinant* Cat. # E-305

This enzyme is responsible for the first step in ubiquitin-protein isopeptide bond formation, by forming a high-energy thioester bond with ubiquitin. Ubiquitin is first activated in an ATP-dependent process, resulting in the adenylation of its C-terminal glycine residue (Gly76). The ubiquitin-adenylate bond is then transferred to a catalytic cysteine residue in the enzyme, yielding an ubiquitin-UBE1 thioester, free AMP and PPi. The activated ubiquitin is then transferred to a lysine of the targeted protein via the E2-E3 conjugation cascade. UBE1 is a critical component for the initiation of many *in vitro* conjugation reactions.

Product Information

Quantity:	25 µg
Stock:	X mg/ml (X µM) in 50 mM HEPES pH 8.0.
Purity:	> 95% by SDS-PAGE
MW:	118 kDa

Use & Storage

Use:	Typical enzyme concentration to support conjugation <i>in vitro</i> is 50-200 nM depending on conditions.
Storage:	Store at -80°C. Avoid multiple freeze/thaw cycles.

Literature

References:	Ciechanover A., <i>et al.</i> (1982) <i>J. Biol. Chem.</i> 257 :2537-2542 Haas A.L. and Rose I.A. (1982) <i>J. Biol. Chem.</i> 257 :10329-10337 Haas A.L., <i>et al.</i> (1982) <i>J. Biol. Chem.</i> 257 :2543-2548 Handley P.M., <i>et al.</i> (1991) <i>Proc. Natl. Acad. Sci.</i> 88 :258-262 Jonnalagadda S., <i>et al.</i> (1988) <i>J. Biol. Chem.</i> 263 :5016-5019 Pickart C.M., <i>et al.</i> (1994) <i>J. Biol. Chem.</i> 269 :7115-7123 Salvat C., <i>et al.</i> (2000) <i>Eur. J. Biochem.</i> 267 :3712-3722 Stephen A.G., <i>et al.</i> (1996) <i>J. Biol. Chem.</i> 271 :15608-15614 Wilkinson K.D., <i>et al.</i> (1990) <i>Biochem.</i> 29 :7373-7380
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