

MATERIAL DATA SHEET

Ubiquitin Activating Enzyme (UBE1), yeast Cat. # E-301

This enzyme is responsible for the first step in ubiquitin-protein isopeptide bond formation, by forming a high-energy thioester bond with ubiquitin. The ubiquitin is activated by first adenylating with ATP its C-terminal glycine residue (Gly76) and thereafter linking this residue to the side chains of a cysteine residue in E1, yielding an ubiquitin-E1 thioester and free AMP. The activated ubiquitin is then transferred to a lysine of the targeted protein via the E2-E3 conjugation cascade. E1 is a critical component for the initiation of any *in vitro* conjugation reactions.

Product Information

Quantity:	50 µg
Stock:	X mg/ml (X µM) in 50 mM HEPES pH8.0. Concentration varies with Lot #.
MW:	110 kDa
Purity:	> 95% by SDS-PAGE

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 Ghaboosi N. and Deshaies R.J. (2007) <i>Mol.Biol.Cell.</i> 181 :1953-1963 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 Hoefler M and Cook J.C. (1991) <i>FEBS. Lett.</i> 289 :54-59 Jonnalagadda S., <i>et al.</i> (1988) <i>J. Biol. Chem.</i> 263 :5016-5019 MacGrath J.P. <i>et al.</i> (1991) <i>EMBO J.</i> 10 :227-236 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
--------------------	--

For Laboratory Research Use Only, Not For Use in Humans