

## UBE1 (Ubiquitin Activating Enzyme E1)

Cat. # UB101

**Background:** UBE1, the ubiquitin activating enzyme, is the first enzyme utilized in the pathway to conjugate ubiquitin onto target substrates through an ubiquitin-protein isopeptide bond. The C-terminal glycine of an ubiquitin (G76) is initially adenylated in an ATP dependent manner activating it so it can be transferred to the active site cysteine of UBE1 forming an ubiquitin-UBE1 thiolester. With the help of the other enzymes in the ubiquitin conjugation pathway (E2/E3 enzymes) the ubiquitin is transferred to a specific lysine on a target substrate.

**Alternate names:** UBA1, POC20, A1S9T, A1ST, AMCX1, GXP1, SMAX2

### Product Information

<b>Purity:</b>	≥ 95% by SDS-PAGE
<b>Molecular Weight:</b>	118kDa
<b>Quantity:</b>	50 µg
<b>Physical State:</b>	Liquid
<b>Buffer:</b>	50mM Tris (pH 8.0), 100mM NaCl, 10% glycerol
<b>Source:</b>	Human Recombinant
<b>Tag:</b>	Untagged
<b>Activity:</b>	Typical enzyme concentration of 5nM – 100nM is used for in vitro conjugation, depending on conditions.
<b>Storage:</b>	-80° C. Avoid repeated freeze/thaw cycles

### References

- 1) Ciechanover, A., et al., "Covalent affinity" purification of ubiquitin-activating enzyme. *J Biol Chem*, 1982. 257(5): p. 2537-42.
- 2) Haas, A.L., et al., *Ubiquitin-activating enzyme. Mechanism and role in protein-ubiquitin conjugation*. *J Biol Chem*, 1982. 257(5): p. 2543-8.
- 3) Haas, A.L. and I.A. Rose, *The mechanism of ubiquitin activating enzyme. A kinetic and equilibrium analysis*. *J Biol Chem*, 1982. 257(17): p. 10329-37.
- 4) Handley, P.M., et al., *Molecular cloning, sequence, and tissue distribution of the human ubiquitin-activating enzyme E1*. *Proc Natl Acad Sci U S A*, 1991. 88(1): p. 258-62.

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