

**MATERIAL DATA SHEET****Ubiquitin Activating Enzyme (UBE1L2, Uba6), *human recombinant***  
**Cat. # E-307 (GST-tagged)**

UBE1L2 (also known as Uba6) is a newly identified second E1 activating enzyme for ubiquitin. Similar to the known Ub E1 (UBE1, **E-305**) this enzyme contains a ThiF-homology motif and catalytic cysteine domain that binds to and adenylates the ubiquitin and a C-terminal ubiquitin-fold domain that recruits E2 enzymes. It shares 40% identity with UBE1 and orthologs are present in vertebrates (but not in insects, worms, fungi or plants). The protein is widely expressed in most human tissues and cell types. This E1 enzyme does not activate any other UBL proteins (including SUMO, NEDD8, ISG15, FAT10, FUB1, Urm1) and shows comparable rates of Ub activation to UBE1 *in vitro*. The enzyme specifically charges a newly identified E2 enzyme Use1 (**E2-677**) which is not charged by UBE1. It can also charge other E2 enzymes including all UbcH5 isoforms and UbcH7. UBE1L2 is about 10-fold less abundant than UBE1 but likely represents an important alternate but distinct ubiquitination pathway that is differentially regulated.

**Product Information**

<b>Quantity:</b>	25 µg
<b>Stock:</b>	X mg/ml (X µM) in 50 mM HEPES pH 8.0. Actual concentration will vary with lot #.
<b>Purity:</b>	> 95% by SDS-PAGE
<b>MW:</b>	148 kD

**Use & Storage**

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

**Literature**

<b>References:</b>	Jin J., <i>et al.</i> , (2007) <i>Nature</i> <b>447</b> : 1135-1138. Pelzer C., <i>et al.</i> , (2007) <i>J. Biol. Chem.</i> <b>282</b> : 23010-23014.
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