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MATERIAL DATA SHEET

His_6-UFM1 Activating Enzyme (UBA5), *human recombinant*
Cat. # E-319

Ubiquitin-fold Modifier 1 (UFM1) Activating Enzyme, also known as Ubiquitin-like Modifier Activating Enzyme 5 (UBA5) and Ubiquitin-activating Enzyme E1 Domain-containing Protein 1 (UBE1DC1), is a 404 amino acid (aa) member of the Ubiquitin-activating (E1) enzyme family with a predicted molecular weight of 45 kDa. The mouse and rat UFM1 Activating Enzyme/UBA5 orthologs share 87% and 88% aa sequence identity with the human protein, respectively. UFM1 Activating Enzyme/UBA5 is highly conserved in plants and metazoans but not in yeast. In humans, it is expressed both as the full length protein and as a truncated isoform that lacks aa 1-56. It is widely expressed in human cells where it is localized to the cytoplasm and nucleus. UFM1 Activating Enzyme/UBA5 has a conserved ATP-binding motif in close proximity to an active site cysteine residue, Cys250 in humans, and a metal binding motif, both of which are common to most E1 enzymes. It is the activating enzyme for both UFM1 and SUMO2. UFM1 Activating Enzyme/UBA5 is required for erythroid differentiation in mice.

Product Information	
Quantity:	25 µg
Stock:	0.24 mg/ml (5 µM) in 50 mM HEPES pH 7.5, 100 mM NaCl, 1 mM TCEP
MW:	47 kDa
Purity:	> 90% by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain.

Use & Storage	
Use:	Recombinant human His_6-UFM1 Activating Enzyme (UBA5) is a UFM1 activating (E1) enzyme that is required for the first step of the enzymatic cascade that subsequently utilizes a UFM1 conjugating (E2) enzyme and a UFM1 ligase (E3) to conjugate UFM1 to substrate proteins. Reaction conditions will need to be optimized for each specific application. We recommend an initial His_6-UBA5 concentration of 50-200 nM.
Storage:	Store at -80°C. Avoid multiple freeze/thaw cycles.

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Literature

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