

MATERIAL DATA SHEET

Recombinant Human GST Ubch5b/UBE2D2

Cat. # E2-620

Ubiquitin-conjugating Enzyme H5b (Ubch5b), also known as Ubiquitin-conjugating Enzyme E2D 2 (UBE2D2), is a widely expressed member of the Ubiquitin-conjugating (E2) enzyme family (1). The protein has a predicted molecular weight of 16.5 kDa. Ubch5b/UBE2D2 localizes to both the nucleus and the cytoplasm (2). The human protein shares 100% and 92% amino acid sequence identity with the mouse and rat orthologs, respectively. This enzyme has an E2 catalytic core domain that contains an active site cysteine residue that is required for the formation of a thioester bond with Ubiquitin (3). Ubch5b/UBE2D2 is capable of mediating the formation of Ubiquitin chains linked through Lys11, Lys48, or Lys63 (4). Working with the SCF(Fbxw2) and MDM2/HDM2 Ubiquitin ligases (E3s), Ubch5b/UBE2D2 mediates the ubiquitination and degradation of the transcription factors GCM1 and p53, respectively (5-7). Along with UBE2N/Ubc13, Ubch5b/UBE2D2 may have a role in the endocytosis and endolysosomal degradation of MHC class I molecules (8). Non-proteolytic ubiquitination of TRIM5- α by Ubch5b/UBE2D2 has been reported to block HIV reverse transcription (9). Pathologically, UBE2D family members may be critical targets of cadmium during cadmium-induced renal toxicity (10). Additionally, overexpression of Ubch5b/UBE2D2 has been linked to inflammatory bowel disease (11). This protein has an N-terminal GST-tag.

Product Information

Quantity:	50 μ g 100 μ g
MW:	43 kDa
Source:	<i>E. coli</i> -derived Contains an N-terminal GST (glutathione S-transferase) tag Accession # P51669
Stock:	X mg/ml (X μ M) in 50 mM HEPES pH 7.5, 200 mM NaCl, 10% Glycerol (v/v), 1 mM TCEP
Purity:	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Use & Storage

- Use:** Recombinant Human GST-UbcH5b is a member of the Ubiquitin-conjugating (E2) enzyme family that receives Ubiquitin from a Ubiquitin-activating (E1) enzyme and subsequently interacts with a Ubiquitin ligase (E3) to conjugate Ubiquitin to substrate proteins. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human GST-UbcH5b concentration of 0.1-1 μ M.
- Storage:** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -70 °C as supplied.
 - 3 months, -70 °C under sterile conditions after opening.

Literature

References:

1. Jensen, J.P. *et al.* (1995) J. Biol. Chem. **270**:30408.
2. Umebayashi, K. *et al.* (2008) Mol. Biol. Cell **19**:3454.
3. Herskho, A. *et al.* (1983) J. Biol. Chem. **258**:8206.
4. Ordureau, A. *et al.* (2008) Biochem. J. **409**:43.
5. Chiang, M.H. *et al.* (2008) Biol. Reprod. **79**:914.
6. Saville, M.K. *et al.* (2004) J. Biol. Chem. **279**:42169.
7. Iyappan, S. *et al.* (2010) J. Biol. Chem. **285**:33065.
8. Duncan, L.M. *et al.* (2006) EMBO J. **25**:1635.
9. Yamauchi, K. *et al.* (2008) FEBS J. **275**:1540.
10. Tokumoto, M. *et al.* (2011) J. Toxicol. Sci. **36**:191.
11. Hetzenecker, A.M. *et al.* (2012) Digestion **86**:34.

For research use only. Not for use in humans.