Data Sheet (Cat.No.TMPY-02604)

TargetMol

UBE2D4 Protein, Human, Recombinant (His)

General Information

Synonyms:	HBUCE1;ubiquitin-conjugating enzyme E2D 4 (putative)
Protein Construction:	A DNA sequence encoding the human UBE2D4 (Q9Y2X8) (Met 1-Met 147) was expressed, with a polyhistide tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	Q9Y2X8
Molecular Weight:	18.5 kDa (predicted); 18.5 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 0.1M NaCl, 10% glycerol, 2 mM DTT, pH 8.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

UBE2D4 is a member of the ubiquitin-conjugating E2 family whose members perform the second step in the ubiquitination reaction. Initially identified as the main process for protein degradation, ubiquitination is believed nowadays to be crucial for a wider range of cellular processes. The outcome of the ubiquitin-conjugation reaction, and thereby the fate of the substrate, is heavily dependent on the number of ubiquitin molecules attached and how these ubiquitin molecules are inter-connected. To deal with this complexity and to allow adequate

ubiquitination in time and space, a highly sophisticated conjugation machinery has been developed. In a sequential manner, ubiquitin becomes activated by a ubiquitin-activating enzyme (E1), which then transfers the ubiquitin to a group of ubiquitin-conjugating enzymes (E2s). Next, ubiquitin-loaded E2s are interacting with ubiquitin-protein ligases (E3s) and ubiquitin is conjugated to substrates on recruitment by the E3. These three key enzymes are operating in a hierarchical system, wherein two E1s and 35 E2s have been found and hundreds of E3s have been identified in humans. It has been identified the UBE2D family (UBE2D1-4) as E2 partners for IDOL that support both autoubiquitination and IDOL-dependent ubiquitination of the LDLR in a cell-free system.

Reference

Sjoerd J L van Wijk,et al. (2009) A comprehensive framework of E2-RING E3 interactions of the human ubiquitin-proteasome system. Mol Syst Biol. 5: 317.

Zhang L,et al. (2011) The IDOL-UBE2D complex mediates sterol-dependent degradation of the LDL receptor. Genes Dev. 25 (12): 1262-74.

Nandi D,et al. (2006) The ubiquitin-proteasome system. Journal of biosciences. 31 (1): 137-55.