
MATERIAL DATA SHEET

Recombinant Human His6 USP8**Cat. # E-520**

Ubiquitin Specific Peptidase 8 (USP8), also known as Ubiquitin Isopeptidase Y (UBPY), is a widely expressed deubiquitinating enzyme belonging to the peptidase C19 family. It has a predicted molecular weight of 127.5 kDa (1). Human USP8 is 1118 amino acids (aa) in length and shares 84% aa sequence identity with the mouse and rat orthologs (2). It contains an N-terminal MIT domain (aa 33-116) that mediates endosomal localization, CHMP-binding, and maintenance of ESCRT-0 (3). USP8 also has a rhodanese domain (aa 181-319) that binds NRDP1 Ubiquitin ligase (E3), a SH3 domain binding sequence (aa 405-413), and a C-terminal catalytic domain (aa 734-1110) (2,4). USP8 is a growth-regulated enzyme that controls the internalization and endocytic trafficking of cell surface receptors (1,5). Some receptors are targeted for internalization and degradation by ubiquitination. USP8 has been shown to disrupt the down-regulation of multiple receptors, including EGF R/ErbB1, ErbB2/Her2, and Smoothed, via their deubiquitination (6-9). Conversely, USP8 appears to have the opposite effect on the trafficking of CXCR4, PAR2, and the δ -opioid receptor (10-12). Depletion or catalytic inactivation of USP8 stabilized their expression (10-12). It is thought that deubiquitination of these receptors down-stream of the sorting endosome commits them to lysosomal degradation (10). USP8 can be phosphorylated at Ser680 allowing for 14-3-3-epsilon binding, which subsequently inhibits USP8 activity (13). Additionally, USP8 undergoes tyrosine phosphorylation at its N-terminus following EGF activation of the EGF R/ErbB1 / ErbB2/Her2 receptor complex (7). This recombinant human protein contains an N-terminal His₆-tag.

Product Information

Quantity:	25 μ g
MW:	131 kDa
Source:	<i>Spodoptera frugiperda</i> , Sf9 (baculovirus)-derived Contains an N-terminal 6-His tag Accession # P40818
Stock:	X mg/ml (X μ M) in 50 mM HEPES pH 7.5, 100 mM NaCl, 1 mM TCEP
Purity:	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Use & Storage

Use: Recombinant Human His6-USP8 is a Ubiquitin-specific deconjugating enzyme. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human His6-USP8 concentration of 10-50 nM.

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:

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