

PRODUCT DATA SHEET



Revised: 31 January 2009
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Product name(s):	USP2 catalytic domain, untagged (rat, recombinant)				
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Product code:	UW9850	Batch number:	Z06091	Expiry date:	12 months from receipt
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Product information:

Ubiquitin-specific proteases (USPs) represent the most widespread and represented deubiquitinating enzymes across evolution. USPs tend to release ubiquitin from a conjugated protein. They display similar catalytic domains but divergent N-terminal and occasionally C-terminal extensions, which are thought to function in substrate recognition, subcellular localization, and protein-protein interactions.

It has been reported that USP2 functions at the pre-proteasomal level by preventing the degradation of fatty acid synthase (FAS)¹. FAS overexpression occurs in the majority of epithelial tumors, including prostate cancer, and protects cancer cells from apoptosis. Because USP2 is overexpressed in prostate cancer and its inhibition results in apoptosis of transformed prostatic cells, this isopeptidase may be targeted to induce apoptosis in prostate cancer cells.

The full length USP2 protein is comprised of 618 amino acids with a predicted molecular mass of 69.4 kDa and contains the highly conserved Cys and His boxes present in all members of the UBP family of deubiquitinating enzymes. The 271-618 fragment contains all the necessary residues for catalytic activity and exhibits deubiquitinating activity vs. ubiquitin-AMC (Cat. # SE211).

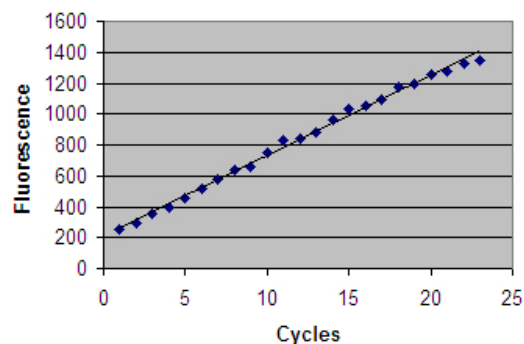
Data

UW9850 is a recombinant protein expressed in *E. coli* BL21 (λ DE3) corresponding to the rat USP2 catalytic domain (accession number: Q5U349, length 348 amino acids). The molecular weight of the recombinant material is 39992Da. The purity, assessed by SDS-PAGE, following ion exchange chromatography, is >95%.



Coomassie stained gel of USP2 catalytic domain (UW9850).

Lane 1: MW markers (top to bottom) 205, 116, 97, 84, 66, 55, 45 and 36. Lane 2: UW9850 (2 μ g).



DUB Assay: 50 nM USP2 catalytic domain (UW9850); 500nM Ubiquitin-AMC; 50mM HEPES, pH7.8, 0.5mM EDTA, 1mM DTT

Storage and use:

Material is supplied at a concentration of 0.63 mg/mL in 10mM MES, 0.5mM DTT, 50mM Tris, 20% Glycerol pH 7.5. For long-term storage store at -80°C . Avoid multiple freeze/thaw cycles. After initial defrost, aliquot into individual tubes and refreeze at -80°C .

References:

1. Graner, E., Tang, D., Rossi, S., Baron, A., Migita, T., Weinstein, L. J., Lechpammer, M., Huesken, D., Zimmermann, J., Signoretti, S. and Loda, M. The isopeptidase USP2a regulates the stability of fatty acid synthase in prostate cancer. *Cancer Cell* 5,253 (2004).