

USP14 (Ubiquitin Specific Protease 14)

Cat. # DB505

Background

USP14 (Ubiquitin Specific Protease 14) is a proteasome-associated deubiquitinase which releases ubiquitin from the proteasome-targeted ubiquitinated proteins. This enzyme also serves as a physiological inhibitor of endoplasmic reticulum-associated degradation (ERAD) under the non-stressed condition by inhibiting the degradation of unfolded ER proteins via interaction with ERN1. It also plays a role in the innate immune defense against viruses by stabilizing the viral DNA sensor CGAS and thus inhibiting its autophagic degradation.

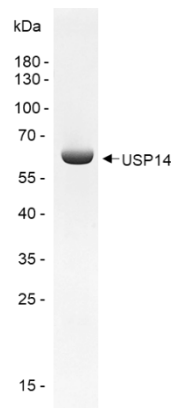
Alternate names

Deubiquitinating enzyme 14, TGT, Ubiquitin carboxyl-terminal hydrolase 14, Ubiquitin-specific-processing protease 14, Ubiquitin thioesterase 14

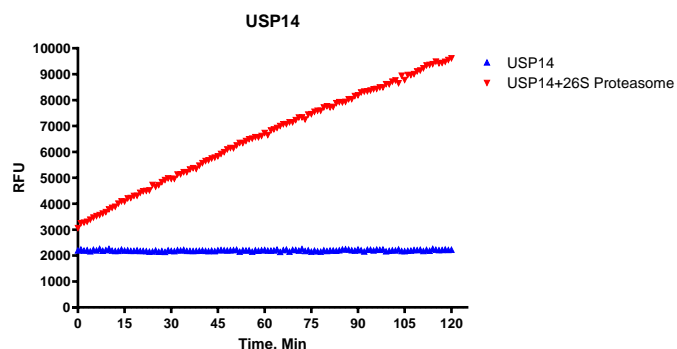
Product Information

Purity	≥ 95% by SDS-PAGE
Accession No.	P54578
Molecular Weight	68 kDa
Quantity	25 µg
Physical State	Liquid
Source	Human, recombinant
Tag	His ₆ SUMO
Activity	This enzyme requires 26S Proteasome for activity and cleaves K48-linked ubiquitin chains <i>in vitro</i> .
Storage	-80° C. Avoid repeated freeze/thaw cycles

Product QC



SDS-Page Analysis of purified USP14. Two µg of the enzyme was loaded on a 10-20% SDS-PAGE gel and stained with Coomassie brilliant blue.



Activity Assay of USP14. 100 nM USP14 was tested in a Ub-Rh110 assay in presence of 26S Proteasome showing robust DUB activity. Note that the resident DUBs of 26S Proteasome was inactivated prior to assaying with USP14.

References

1. Chen, M., et al., Mol Cell., 2016. 64(1):105-119.
2. Ming, SL., et al., Autophagy, 2022. 18(8):1801-1821.

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