Revision 1

Store at -20C

#8353

DUB Antibody Sampler Kit

1 Kit (9 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-CYLD (Ser418) Antibody	4500	20 µl	108 kDa	Rabbit
STAMBP Antibody	5245	20 µl	50 kDa	Rabbit
A20/TNFAIP3 (D13H3) Rabbit mAb	5630	20 µl	82 kDa	Rabbit IgG
UCHL1 (D3T2E) XP® Rabbit mAb	13179	20 µl	27 kDa	Rabbit IgG
HAUSP (D17C6) XP® Rabbit mAb	4833	20 µl	135, 140 kDa	Rabbit IgG
USP9X Antibody	5751	20 µl	270 kDa	Rabbit
CYLD (D1A10) Rabbit mAb	8462	20 µl	108 kDa	Rabbit IgG
UCHL3 (D25E6) Rabbit mAb	8141	20 µl	27 kDa	Rabbit IgG
USP10 (D7A5) Rabbit mAb	8501	20 µl	110 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The DUB Antibody Sampler Kit offers an economical means of evaluating the presence and status of selected DUB enzymes. This kit contains enough primary antibody to perform two western blot experiments per primary.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

Ubiquitinating enzymes (UBEs) catalyze protein ubiquitination, a reversible process countered by deubiquitinating enzyme (DUB) action (1,2). CYLD deubiquitinase regulates inflammation and cell proliferation by down regulating NF-κB signaling through removal of ubiquitin chains from several NF-κB pathway proteins (3,4). Phosphorylation at Ser418 decreases CYLD deubiquitinase activity and is important for IKKε-driven transformation (5). STAM-binding protein (STAMBP or AMSH) is an endosomal DUB that preferentially displays ubiquitin isopeptidase activity toward K63-linked chains (6,7). The amino-terminus of A20 contains deubiquitinating activity for Lys63 branches, such as those found in TRAF6 and RIP, while the carboxyl-terminus contains ubiquitin ligase activity for Lys48 branches of the same substrates and leads to their degradation (8). Both enzymes have been implicated in neurodegenerative diseases (9-11) and play a role in the regulation of neuronal development and spermatogenesis (10,13,14). UCHL1 binds monoubiquitin and UCHL3 shows affinity for both ubiquitin and NEDD8, a ubiquitin-like molecule (11,12). HAUSP can bind and deubiquitinate the p53 transcription factor and an associated regulator protein Mdm2, thereby stabilizing both proteins (15,16). HAUSP also modifies other ubiquitinated proteins such as members of the FoxO family of forkhead transcription factors and the mitotic stress checkpoint protein CHFR (17,18). USP10 appears to be regulated through both protein-protein interactions and phosphorylation. Interaction of USP10 with Ras-GAP SH3 domain binding protein (G3BP) inhibits its ability to disassemble ubiquitin chains (19). ATM-mediated phosphorylation at Thr42 and Ser337 stabilizes USP10, promoting redistribution from the cytoplasm to the nucleus, where it functions in p53 deubiquitination, stabilization, and activation in response to genotoxic stress (20). USP9X possesses a well-conserved catalytic domain with cysteine peptidase activity, which allows for cleavage of ubiquitin and polyubiquitin conjugates. While USP9X expression has been shown to be critical for normal mammalian development (21-23), many of its substrates are only beginning to be elucidated.

Background References

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