Revision 1

#5114 Store at -20C

SQSTM1/p62 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	62	Rabbit	#Q13501	8878

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

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

Specificity/Sensitivity

SQSTM1/p62 Antibody detects endogenous levels of total SQSTM1/p62 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly410 of human SQSTM1/p62 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Sequestosome 1 (SQSTM1, p62) is a ubiquitin binding protein involved in cell signaling, oxidative stress, and autophagy (1-4). It was first identified as a protein that binds to the SH2 domain of p56Lck (5) and independently found to interact with PKCζ (6,7). SQSTM1 was subsequently found to interact with ubiquitin, providing a scaffold for several signaling proteins and triggering degradation of proteins through the proteasome or lysosome (8). Interaction between SQSTM1 and TRAF6 leads to the K63-linked polyubiquitination of TRAF6 and subsequent activation of the NF-κB pathway (9). Protein aggregates formed by SQSTM1 can be degraded by the autophagosome (4,10,11). SQSTM1 binds autophagosomal membrane protein LC3/Atg8, bringing SQSTM1-containing protein aggregates to the autophagosome (12). Lysosomal degradation of autophagosomes leads to a decrease in SQSTM1 levels during autophagy; conversely, autophagy inhibitors stabilize SQSTM1 levels. Studies have demonstrated a link between SQSTM1 and oxidative stress. SQSTM1 interacts with KEAP1, which is a cytoplasmic inhibitor of NRF2, a key transcription factor involved in cellular responses to oxidative stress (3). Thus, accumulation of SQSTM1 can lead to an increase in NRF2 activity.

Background References

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3. Komatsu, M. et al. (2010) *Nat Cell Biol* 12, 213-23.
4. Bjørkøy, G. et al. (2006) *Autophagy* 2, 138-9.
5. Joung, I. et al. (1996) *Proc Natl Acad Sci USA* 93, 5991-5.
6. Sanchez, P. et al. (1998) *Mol Cell Biol* 18, 3069-80.
7. Puls, A. et al. (1997) *Proc Natl Acad Sci USA* 94, 6191-6.
8. Vadlamudi, R.K. et al. (1996) *J Biol Chem* 271, 20235-7.
9. Wooten, M.W. et al. (2005) *J Biol Chem* 280, 35625-9.
10. Bjørkøy, G. et al. (2005) *J Cell Biol* 171, 603-14.
11. Komatsu, M. et al. (2007) *Cell* 131, 1149-63.
12. Pankiv, S. et al. (2007) *J Biol Chem* 282, 24131-45.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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