Revision 3

Store at -20C

#7695

SQSTM1/p62 (D10E10) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IP, IF-IC	H	Endogenous	62	Rabbit IgG	#Q13501	8878

Product Usage Information

Application	Dilution
Immunoprecipitation	1:50
Immunofluorescence (Immunocytochemistry)	1:100 - 1:400

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.

Specificity/Sensitivity

SQSTM1/p62 (D10E10) Rabbit mAb is recommended to detect endogenous levels of total SQSTM1/p62 protein by immunofluorescence. Products SQSTM1/p62 (D5E2) Rabbit mAb #8025 and SQSTM1/p62 Antibody #5114 are preferred for western blot.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human SQSTM1/p62 protein.

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.
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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).

Applications Key

IP: Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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