

SQSTM1/p62 (D1D9E3) Rabbit mAb (Alexa Fluor® 488 Conjugate)



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For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity	Isotype
IF-IC Endogenous	H	Rabbit IgG

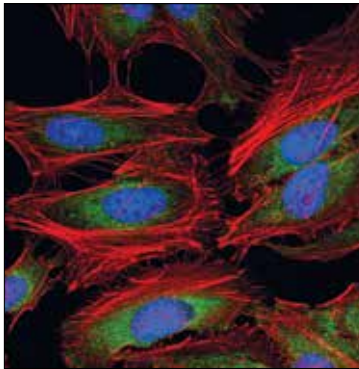
Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometry and immunofluorescent analysis in human cells.

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.

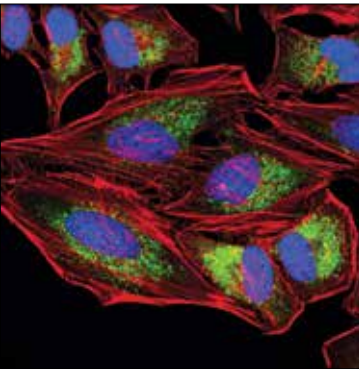
Specificity/Sensitivity: SQSTM1/p62 (D1D9E3) Rabbit mAb (Alexa Fluor® 488 Conjugate) recognizes endogenous levels of total SQSTM1/p62 protein.

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.

Untreated



Bafilomycin A-treated



Confocal immunofluorescent analysis of HeLa cells, untreated (upper) or treated with bafilomycin A (100 nM, 18 hr; lower), using SQSTM1/p62 (D1D9E3) Rabbit mAb (Alexa Fluor® 488 Conjugate) (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054. Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Entrez-Gene ID #8878
UniProt ID #Q13501

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. *Do not aliquot the antibody. Protect from light. Do not freeze.*

Recommended Antibody Dilutions:

Immunofluorescence (IF-IC) 1:50

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Kirkin, V. et al. (2009) *Mol Cell* 34, 259-69.
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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.
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- (11) Komatsu, M. et al. (2007) *Cell* 131, 1149-63.
- (12) Pankiv, S. et al. (2007) *J Biol Chem* 282, 24131-45.

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Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA—Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse AI—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.