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Phospho-SQSTM1/p62 (Ser403) (D8D6T) Rabbit mAb



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

Product Usage Information	Application Western Blotting Immunofluorescence (Immunocytochemistry)	Dilution 1:1000 1:50 - 1:200
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	Phospho-SQSTM1/p62 (Ser403) (D8D6T) Rabbit mAb recognizes endogenous levels of SQSTM1/p62 protein only when phosphorylated at Ser403.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic phospho-peptide corresponding to residues surrounding Ser403 of human SQSTM1/p62 protein.	
Background	<p>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.</p> <p>Phosphorylation of SQSTM1 at Ser403 increases its affinity for polyubiquitinated chains, resulting in enhanced autophagic clearance (13,14). This site has been reported to be phosphorylated by casein kinase 2 (CK2), as well as by the innate immunity regulator TBK-1.</p>	
Background References	<ol style="list-style-type: none"> Kirkin, V. et al. (2009) <i>Mol Cell</i> 34, 259-69. Seibenhener, M.L. et al. (2007) <i>FEBS Lett</i> 581, 175-9. Komatsu, M. et al. (2010) <i>Nat Cell Biol</i> 12, 213-23. Bjørkøy, G. et al. (2006) <i>Autophagy</i> 2, 138-9. Joung, I. et al. (1996) <i>Proc Natl Acad Sci USA</i> 93, 5991-5. Sanchez, P. et al. (1998) <i>Mol Cell Biol</i> 18, 3069-80. Puls, A. et al. (1997) <i>Proc Natl Acad Sci USA</i> 94, 6191-6. Vadlamudi, R.K. et al. (1996) <i>J Biol Chem</i> 271, 20235-7. Wooten, M.W. et al. (2005) <i>J Biol Chem</i> 280, 35625-9. Bjørkøy, G. et al. (2005) <i>J Cell Biol</i> 171, 603-14. Komatsu, M. et al. (2007) <i>Cell</i> 131, 1149-63. Pankiv, S. et al. (2007) <i>J Biol Chem</i> 282, 24131-45. Matsumoto, G. et al. (2011) <i>Mol Cell</i> 44, 279-89. Pilli, M. et al. (2012) <i>Immunity</i> 37, 223-34. 	

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**WB:** Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)**Cross-Reactivity Key****H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected**Trademarks and Patents**

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