

# SQSTM1/p62 Rabbit mAb

Catalog # AP76880

## Product Information

Application	WB, IHC-P, IHC-F, IP, ICC
Primary Accession	<a href="#">Q13501</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	47687

## Additional Information

Gene ID	8878
Other Names	SQSTM1
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IHC-F~~N/A IP~~N/A ICC~~N/A
Format	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.

## Protein Information

Name	SQSTM1 {ECO:0000303   PubMed:16286508, ECO:0000312   HGNC:HGNC:11280}
Function	<p>Molecular adapter required for selective macroautophagy (aggrephagy) by acting as a bridge between polyubiquitinated proteins and autophagosomes (PubMed:<a href="#">15340068</a>, PubMed:<a href="#">15953362</a>, PubMed:<a href="#">16286508</a>, PubMed:<a href="#">17580304</a>, PubMed:<a href="#">20168092</a>, PubMed:<a href="#">22017874</a>, PubMed:<a href="#">22622177</a>, PubMed:<a href="#">24128730</a>, PubMed:<a href="#">28404643</a>, PubMed:<a href="#">29343546</a>, PubMed:<a href="#">29507397</a>, PubMed:<a href="#">31857589</a>, PubMed:<a href="#">33509017</a>, PubMed:<a href="#">34471133</a>, PubMed:<a href="#">34893540</a>, PubMed:<a href="#">35831301</a>, PubMed:<a href="#">37306101</a>, PubMed:<a href="#">37802024</a>). Promotes the recruitment of ubiquitinated cargo proteins to autophagosomes via multiple domains that bridge proteins and organelles in different steps (PubMed:<a href="#">16286508</a>, PubMed:<a href="#">20168092</a>, PubMed:<a href="#">22622177</a>, PubMed:<a href="#">24128730</a>, PubMed:<a href="#">28404643</a>, PubMed:<a href="#">29343546</a>, PubMed:<a href="#">29507397</a>, PubMed:<a href="#">34893540</a>, PubMed:<a href="#">37802024</a>). SQSTM1 first mediates the assembly and removal of ubiquitinated proteins by undergoing liquid-liquid phase separation upon binding to ubiquitinated proteins via its UBA domain, leading to the formation of insoluble cytoplasmic inclusions, known as p62 bodies (PubMed:<a href="#">15911346</a>, PubMed:<a href="#">20168092</a>, PubMed:<a href="#">22017874</a>, PubMed:<a href="#">24128730</a>, PubMed:<a href="#">29343546</a>, PubMed:<a href="#">29507397</a>, PubMed:<a href="#">31857589</a>, PubMed:<a href="#">37802024</a>). SQSTM1 then interacts with ATG8 family proteins on autophagosomes via its LIR motif,</p>

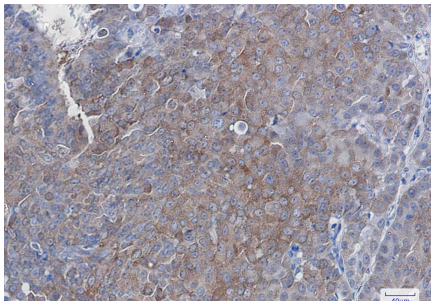
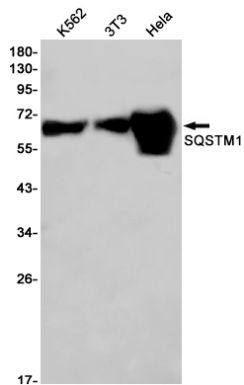
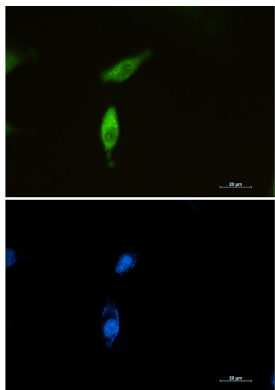
leading to p62 body recruitment to autophagosomes, followed by autophagic clearance of ubiquitinated proteins (PubMed:[16286508](#), PubMed:[17580304](#), PubMed:[20168092](#), PubMed:[22622177](#), PubMed:[24128730](#), PubMed:[28404643](#), PubMed:[37802024](#)). SQSTM1 is itself degraded along with its ubiquitinated cargos (PubMed:[16286508](#), PubMed:[17580304](#), PubMed:[37802024](#)). Also required to recruit ubiquitinated proteins to PML bodies in the nucleus (PubMed:[20168092](#)). Also involved in autophagy of peroxisomes (pexophagy) in response to reactive oxygen species (ROS) by acting as a bridge between ubiquitinated PEX5 receptor and autophagosomes (PubMed:[26344566](#)). Acts as an activator of the NFE2L2/NRF2 pathway via interaction with KEAP1: interaction inactivates the BCR(KEAP1) complex by sequestering the complex in inclusion bodies, promoting nuclear accumulation of NFE2L2/NRF2 and subsequent expression of cytoprotective genes (PubMed:[20452972](#), PubMed:[28380357](#), PubMed:[33393215](#), PubMed:[37306101](#)). Promotes relocalization of 'Lys-63'-linked ubiquitinated STING1 to autophagosomes (PubMed:[29496741](#)). Involved in endosome organization by retaining vesicles in the perinuclear cloud: following ubiquitination by RNF26, attracts specific vesicle-associated adapters, forming a molecular bridge that restrains cognate vesicles in the perinuclear region and organizes the endosomal pathway for efficient cargo transport (PubMed:[27368102](#), PubMed:[33472082](#)). Sequesters tensin TNS2 into cytoplasmic puncta, promoting TNS2 ubiquitination and proteasomal degradation (PubMed:[25101860](#)). May regulate the activation of NFKB1 by TNF-alpha, nerve growth factor (NGF) and interleukin-1 (PubMed:[10356400](#), PubMed:[10747026](#), PubMed:[11244088](#), PubMed:[12471037](#), PubMed:[16079148](#), PubMed:[19931284](#)). May play a role in titin/TTN downstream signaling in muscle cells (PubMed:[15802564](#)). Adapter that mediates the interaction between TRAF6 and CYLD (By similarity).

## Cellular Location

Cytoplasmic vesicle, autophagosome. Preautophagosomal structure. Cytoplasm, cytosol. Nucleus, PML body. Late endosome. Lysosome. Nucleus Endoplasmic reticulum. Cytoplasm, myofibril, sarcomere {ECO:0000250|UniProtKB:O08623}. Note=In cardiac muscle, localizes to the sarcomeric band (By similarity). Localizes to cytoplasmic membraneless inclusion bodies, known as p62 bodies, containing polyubiquitinated protein aggregates (PubMed:11786419, PubMed:20357094, PubMed:22017874, PubMed:29343546, PubMed:29507397, PubMed:31857589, PubMed:37306101, PubMed:37802024). In neurodegenerative diseases, detected in Lewy bodies in Parkinson disease, neurofibrillary tangles in Alzheimer disease, and HTT aggregates in Huntington disease (PubMed:15158159). In protein aggregate diseases of the liver, found in large amounts in Mallory bodies of alcoholic and nonalcoholic steatohepatitis, hyaline bodies in hepatocellular carcinoma, and in SERPINA1 aggregates (PubMed:11981755) Enriched in Rosenthal fibers of pilocytic astrocytoma (PubMed:11786419). In the cytoplasm, observed in both membrane-free ubiquitin-containing protein aggregates (sequestosomes) and membrane-surrounded autophagosomes (PubMed:15953362, PubMed:17580304) Colocalizes with TRIM13 in the perinuclear endoplasmic reticulum (PubMed:22178386). Co-localizes with TRIM5 in cytoplasmic bodies (PubMed:20357094). When nuclear export is blocked by treatment with leptomycin B, accumulates in PML bodies (PubMed:20168092) {ECO:0000250|UniProtKB:O08623, ECO:0000269|PubMed:11786419, ECO:0000269|PubMed:11981755, ECO:0000269|PubMed:15158159, ECO:0000269|PubMed:15953362, ECO:0000269|PubMed:17580304, ECO:0000269|PubMed:20168092, ECO:0000269|PubMed:20357094, ECO:0000269|PubMed:22017874, ECO:0000269|PubMed:22178386, ECO:0000269|PubMed:29343546, ECO:0000269|PubMed:29507397, ECO:0000269|PubMed:31857589, ECO:0000269|PubMed:37306101, ECO:0000269|PubMed:37802024}

Tissue Location Ubiquitously expressed.

Images



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