

# SQSTM1/p62 Rabbit mAb

Catalog # AP76898

## Product Information

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<b>Application</b>	WB, IP, ICC
<b>Primary Accession</b>	<a href="#">Q13501</a>
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Calculated MW</b>	47687

## Additional Information

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<b>Gene ID</b>	8878
<b>Other Names</b>	SQSTM1
<b>Dilution</b>	WB~~1/500-1/1000 IP~~N/A ICC~~N/A
<b>Format</b>	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

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<b>Name</b>	SQSTM1 {ECO:0000303   PubMed:16286508, ECO:0000312   HGNC:HGNC:11280}
<b>Function</b>	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:[29507397](#), PubMed:[31857589](#), PubMed:[37802024](#)). SQSTM1 then interacts with ATG8 family proteins on autophagosomes via its LIR motif, 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 relocation 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, 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).

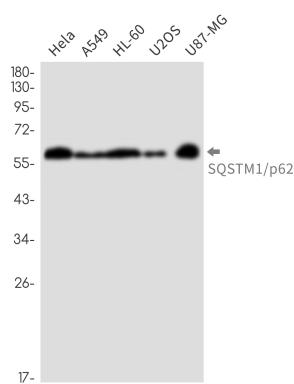
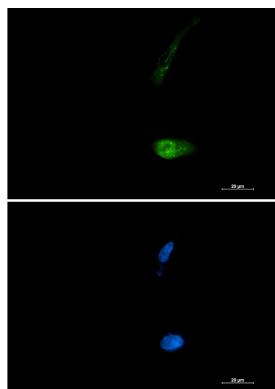
## Cellular Location

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](#),

**Tissue Location** Ubiquitously expressed.

## Images

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