



href="http://www.uniprot.org/citations/29507397" target="\_blank">29507397</a>, PubMed:<a href="http://www.uniprot.org/citations/31857589" target="\_blank">31857589</a>, PubMed:<a href="http://www.uniprot.org/citations/33509017" target="\_blank">33509017</a>, PubMed:<a href="http://www.uniprot.org/citations/34471133" target="\_blank">34471133</a>, PubMed:<a href="http://www.uniprot.org/citations/37306101" target="\_blank">37306101</a>, PubMed:<a href="http://www.uniprot.org/citations/37802024" target="\_blank">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="http://www.uniprot.org/citations/16286508" target="\_blank">16286508</a>, PubMed:<a href="http://www.uniprot.org/citations/20168092" target="\_blank">20168092</a>, PubMed:<a href="http://www.uniprot.org/citations/22622177" target="\_blank">22622177</a>, PubMed:<a href="http://www.uniprot.org/citations/24128730" target="\_blank">24128730</a>, PubMed:<a href="http://www.uniprot.org/citations/28404643" target="\_blank">28404643</a>, PubMed:<a href="http://www.uniprot.org/citations/29343546" target="\_blank">29343546</a>, PubMed:<a href="http://www.uniprot.org/citations/29507397" target="\_blank">29507397</a>, PubMed:<a href="http://www.uniprot.org/citations/37802024" target="\_blank">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="http://www.uniprot.org/citations/15911346" target="\_blank">15911346</a>, PubMed:<a href="http://www.uniprot.org/citations/20168092" target="\_blank">20168092</a>, PubMed:<a href="http://www.uniprot.org/citations/22017874" target="\_blank">22017874</a>, PubMed:<a href="http://www.uniprot.org/citations/24128730" target="\_blank">24128730</a>, PubMed:<a href="http://www.uniprot.org/citations/29343546" target="\_blank">29343546</a>, PubMed:<a href="http://www.uniprot.org/citations/29507397" target="\_blank">29507397</a>, PubMed:<a href="http://www.uniprot.org/citations/31857589" target="\_blank">31857589</a>, PubMed:<a href="http://www.uniprot.org/citations/37802024" target="\_blank">37802024</a>). 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:<a href="http://www.uniprot.org/citations/16286508" target="\_blank">16286508</a>, PubMed:<a href="http://www.uniprot.org/citations/17580304" target="\_blank">17580304</a>, PubMed:<a href="http://www.uniprot.org/citations/20168092" target="\_blank">20168092</a>, PubMed:<a href="http://www.uniprot.org/citations/22622177" target="\_blank">22622177</a>, PubMed:<a href="http://www.uniprot.org/citations/24128730" target="\_blank">24128730</a>, PubMed:<a href="http://www.uniprot.org/citations/28404643" target="\_blank">28404643</a>, PubMed:<a href="http://www.uniprot.org/citations/37802024" target="\_blank">37802024</a>). SQSTM1 is itself degraded along with its ubiquitinated cargos (PubMed:<a href="http://www.uniprot.org/citations/16286508" target="\_blank">16286508</a>, PubMed:<a href="http://www.uniprot.org/citations/17580304" target="\_blank">17580304</a>, PubMed:<a href="http://www.uniprot.org/citations/37802024" target="\_blank">37802024</a>). Also required to recruit ubiquitinated proteins to PML bodies in the nucleus (PubMed:<a href="http://www.uniprot.org/citations/20168092" target="\_blank">20168092</a>). 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:<a href="http://www.uniprot.org/citations/26344566" target="\_blank">26344566</a>). 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:<a href="http://www.uniprot.org/citations/20452972" target="\_blank">20452972</a>, PubMed:<a href="http://www.uniprot.org/citations/28380357" target="\_blank">28380357</a>, PubMed:<a href="http://www.uniprot.org/citations/33393215" target="\_blank">33393215</a>, PubMed:<a href="http://www.uniprot.org/citations/37306101" target="\_blank">37306101</a>). Promotes relocalization of 'Lys-63'-linked ubiquitinated STING1 to autophagosomes (PubMed:<a href="http://www.uniprot.org/citations/29496741" target="\_blank">29496741</a>). 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:<a href="http://www.uniprot.org/citations/27368102" target="\_blank">27368102</a>, PubMed:<a href="http://www.uniprot.org/citations/33472082" target="\_blank">33472082</a>). Sequesters tensin TNS2 into cytoplasmic puncta, promoting TNS2 ubiquitination and proteasomal degradation (PubMed:<a href="http://www.uniprot.org/citations/25101860" target="\_blank">25101860</a>). May regulate the activation of NFKB1 by TNF-alpha, nerve growth factor (NGF) and interleukin-1 (PubMed:<a href="http://www.uniprot.org/citations/10356400" target="\_blank">10356400</a>, PubMed:<a href="http://www.uniprot.org/citations/10747026" target="\_blank">10747026</a>, PubMed:<a href="http://www.uniprot.org/citations/11244088" target="\_blank">11244088</a>, PubMed:<a href="http://www.uniprot.org/citations/12471037" target="\_blank">12471037</a>, PubMed:<a href="http://www.uniprot.org/citations/16079148" target="\_blank">16079148</a>, PubMed:<a href="http://www.uniprot.org/citations/19931284" target="\_blank">19931284</a>). May play a role in titin/TTN downstream signaling in muscle cells (PubMed:<a href="http://www.uniprot.org/citations/15802564" target="\_blank">15802564</a>). 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.

## SQSTM1 (p62) Antibody (C-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

## SQSTM1 (p62) Antibody (C-term) Blocking peptide - Images

## SQSTM1 (p62) Antibody (C-term) Blocking peptide - Background

SQSTM1/p62 is an adapter protein which binds ubiquitin and may regulate the activation of NFKB1 by TNF-alpha, nerve growth factor (NGF) and interleukin-1. This protein may play a role in titin/TTN

downstream signaling in muscle cells, and may also regulate signaling cascades through ubiquitination. This protein is involved in cell differentiation, apoptosis, immune response and regulation of K(+) channels. SQSTM1/p62 also appears to play a role in macroautophagic removal of intracellular protein aggregates. Cellular depletion studies of SQSTM1/p62 have indicated a role for association with LC3 and aggregate proteins in order to facilitate normal formation of the autophagosome.

### **SQSTM1 (p62) Antibody (C-term) Blocking peptide - References**

Seibenhener, M.L., et al., Mol. Cell. Biol. 24(18):8055-8068 (2004). Eekhoff, E.W., et al., Arthritis Rheum. 50(5):1650-1654 (2004). Brajenovic, M., et al., J. Biol. Chem. 279(13):12804-12811 (2004). Kuusisto, E., et al., J. Neuropathol. Exp. Neurol. 62(12):1241-1253 (2003). Johnson-Pais, T.L., et al., J. Bone Miner. Res. 18(10):1748-1753 (2003).

### **SQSTM1 (p62) Antibody (C-term) Blocking peptide - Citations**

- [Interference with HMGB1 increases the sensitivity to chemotherapy drugs by inhibiting HMGB1-mediated cell autophagy and inducing cell apoptosis.](#)