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Sqstm1(S351) Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20690b

Product Information

Application	WB, E
Primary Accession	Q64337
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB50742
Calculated MW	48163

Additional Information

Gene ID	18412
Other Names	Sequestosome-1, STONE14, Ubiquitin-binding protein p62, Sqstm1, A170, STAP
Target/Specificity	This Sqstm1(S351) antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 346-379 amino acids from the human region of human Phospho-Sqstm1(S351).
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Sqstm1(S351) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Sqstm1 {ECO:0000303|PubMed:16286508, ECO:0000312|MGI:MGI:107931}
Function	Molecular adapter required for selective macroautophagy (aggrephagy) by acting as a bridge between polyubiquitinated proteins and autophagosomes (PubMed:25723488, PubMed:33397898, PubMed:37306101). Promotes the recruitment of ubiquitinated cargo proteins to autophagosomes via multiple

domains that bridge proteins and organelles in different steps (PubMed:25723488, PubMed:33397898). 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:33397898). 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:33397898). SQSTM1 is itself degraded along with its ubiquitinated cargos (By similarity). Also required to recruit ubiquitinated proteins to PML bodies in the nucleus (By similarity). 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 (By similarity). 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:20173742, PubMed:20421418, PubMed:24011591, PubMed:33397898, PubMed:37306101). Promotes relocalization of 'Lys-63'-linked ubiquitinated STING1 to autophagosomes (By similarity). 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 (By similarity). Sequesters tensin TNS2 into cytoplasmic puncta, promoting TNS2 ubiquitination and proteasomal degradation (By similarity). May regulate the activation of NFKB1 by TNF, nerve growth factor (NGF) and interleukin-1 (By similarity). May play a role in titin/TTN downstream signaling in muscle cells (By similarity). Adapter that mediates the interaction between TRAF6 and CYLD (PubMed:14960283, PubMed:18382763).

Cellular Location

Cytoplasmic vesicle, autophagosome {ECO:0000250|UniProtKB:Q13501}. Preautophagosomal structure {ECO:0000250|UniProtKB:Q13501}. Cytoplasm, cytosol. Nucleus, PML body {ECO:0000250|UniProtKB:Q13501}. Late endosome {ECO:0000250|UniProtKB:Q13501}. Lysosome {ECO:0000250|UniProtKB:Q13501}. Nucleus Endoplasmic reticulum {ECO:0000250|UniProtKB:Q13501}. 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:20421418, PubMed:33397898). 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 (By similarity). Enriched in Rosenthal fibers of pilocytic astrocytoma (By similarity). In the cytoplasm, observed in both membrane-free ubiquitin-containing protein aggregates (sequestosomes) and membrane-surrounded autophagosomes (By similarity) Colocalizes with TRIM13 in the perinuclear endoplasmic reticulum (By similarity). Co-localizes with TRIM5 in cytoplasmic bodies (By similarity). When nuclear export is blocked by treatment with leptomycin B, accumulates in PML bodies (By similarity) {ECO:0000250|UniProtKB:O08623, ECO:0000250|UniProtKB:Q13501, ECO:0000269|PubMed:20421418, ECO:0000269|PubMed:33397898}

Tissue Location

Widely expressed..

Background

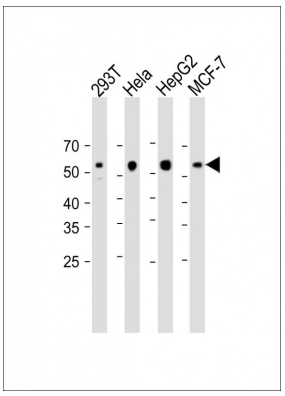
Required both for the formation and autophagic degradation of polyubiquitin-containing bodies, called

ALIS (aggresome-like induced structures). Links ALIS to the autophagic machinery via direct interaction with MAP1 LC3 family members. May regulate the activation of NFKB1 by TNF-alpha, nerve growth factor (NGF) and interleukin-1. May play a role in titin/TTN downstream signaling in muscle cells. May regulate signaling cascades through ubiquitination. May be involved in cell differentiation, apoptosis, immune response and regulation of K(+) channels. Adapter that mediates the interaction between TRAF6 and CYLD.

References

Ishii T.,et al.Biochem. Biophys. Res. Commun. 226:456-460(1996).
Morris J.C.,et al.Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases.
Carninci P.,et al.Science 309:1559-1563(2005).
Church D.M.,et al.PLoS Biol. 7:E1000112-E1000112(2009).
Ishii T.,et al.Biochem. Biophys. Res. Commun. 232:33-37(1997).

Images



All lanes: Anti-Sqstm1(S351) Antibody at 1:4000 dilution Lane 1: 293T whole cell lysate Lane 2: Hela whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: MCF-7 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 60 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Systematic analysis of ribophagy in human cells reveals bystander flux during selective autophagy.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.