

**SPATA18 Antibody**  
**Catalog # ASC11412****Specification****SPATA18 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q8TC71</a>
Other Accession	<a href="#">NP_660306</a> , <a href="#">21687119</a>
Reactivity	Human, Mouse, Rat
Host	Chicken
Clonality	Polyclonal
Isotype	IgY
Application Notes	SPATA18 antibody can be used for detection of SPATA18 by Western blot at 1 µg/mL.

**SPATA18 Antibody - Additional Information**Gene ID **132671****Target/Specificity**

SPATA18; At least three isoforms of SPATA18 are known to exist; this antibody will detect the two longest isoforms. SPATA18 antibody is predicted to not cross-react with other SPATA family members.

**Reconstitution & Storage**

SPATA18 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

SPATA18 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**SPATA18 Antibody - Protein Information****Name** SPATA18**Synonyms** MIEAP**Function**

Key regulator of mitochondrial quality that mediates the repairing or degradation of unhealthy mitochondria in response to mitochondrial damage (PubMed:<a href="http://www.uniprot.org/citations/21264221" target="\_blank">21264221</a>, PubMed:<a href="http://www.uniprot.org/citations/21264228" target="\_blank">21264228</a>, PubMed:<a href="http://www.uniprot.org/citations/22292033" target="\_blank">22292033</a>, PubMed:<a href="http://www.uniprot.org/citations/22532927" target="\_blank">22532927</a>). Mediator of mitochondrial protein catabolic process (also named MALM) by mediating the degradation of damaged proteins inside mitochondria by promoting the accumulation in the mitochondrial matrix of hydrolases that are characteristic of the lysosomal lumen (PubMed:<a

href="http://www.uniprot.org/citations/21264221" target="\_blank">21264221</a>, PubMed:<a href="http://www.uniprot.org/citations/21264228" target="\_blank">21264228</a>, PubMed:<a href="http://www.uniprot.org/citations/22292033" target="\_blank">22292033</a>, PubMed:<a href="http://www.uniprot.org/citations/22532927" target="\_blank">22532927</a>). Also involved in mitochondrion degradation of damaged mitochondria by promoting the formation of vacuole-like structures (named MIV), which engulf and degrade unhealthy mitochondria by accumulating lysosomes (PubMed:<a href="http://www.uniprot.org/citations/21264228" target="\_blank">21264228</a>). The physical interaction of SPATA18/MIEAP, BNIP3 and BNIP3L/NIX at the mitochondrial outer membrane regulates the opening of a pore in the mitochondrial double membrane in order to mediate the translocation of lysosomal proteins from the cytoplasm to the mitochondrial matrix (PubMed:<a href="http://www.uniprot.org/citations/22292033" target="\_blank">22292033</a>). Binds cardiolipin (PubMed:<a href="http://www.uniprot.org/citations/38322995" target="\_blank">38322995</a>). May form molecular condensates (non- membrane-bounded organelles) within mitochondria that compartmentalize and promote cardiolipin metabolism (PubMed:<a href="http://www.uniprot.org/citations/38322995" target="\_blank">38322995</a>).

### Cellular Location

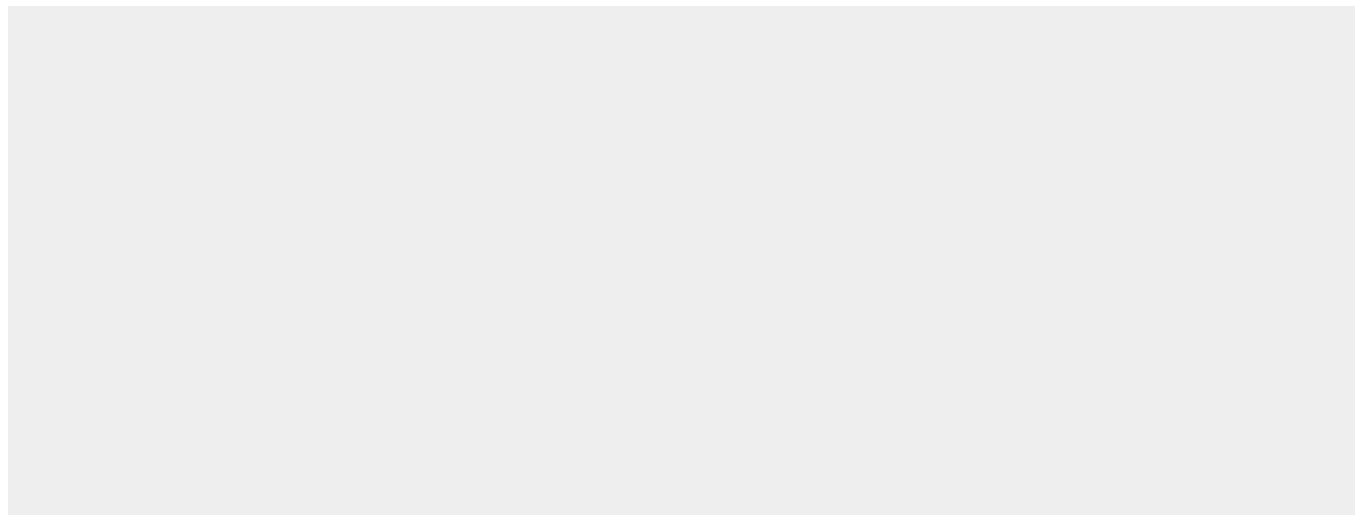
Cytoplasm, cytosol Mitochondrion outer membrane. Mitochondrion matrix Note=Localizes to the cytosol under normal conditions (PubMed:21264228, PubMed:22532927). Relocalizes to mitochondrion outer membrane following cellular stress. May form molecular condensates in the mitochondrial matrix (PubMed:38322995). Colocalizes with BNIP3 and BNIP3L at the mitochondrion outer membrane (PubMed:22292033) [Isoform 2]: Cytoplasm, cytosol. Mitochondrion matrix. Note=Appears to predominantly localize to the mitochondrial matrix following induction of MALM (mitochondrial protein catabolic process).

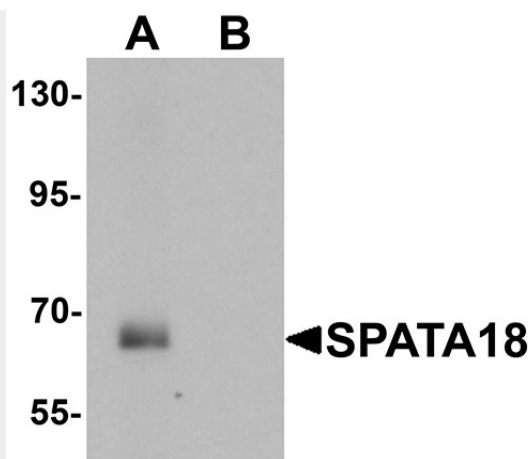
### SPATA18 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### SPATA18 Antibody - Images





Western blot analysis of SPATA18 in rat lung tissue lysate with SPATA18 antibody at 1  $\mu$ g/mL in (A) the absence and (B) the presence of blocking peptide

#### **SPATA18 Antibody - Background**

SPATA18 Antibody: SPATA18, also known as SPETEX-1, was initially identified as a cytoplasmic protein of elongate spermatids that is thought to be involved in differentiation process of elongate spermatids to mature spermatozoa. Recent experiments have shown that SPATA18 is a transcriptional target of p53 and p63. It has also been suggested to play a role in mitochondria quality control by inducing intramitochondrial lysosome-like organella that eliminate oxidized mitochondrial proteins.

#### **SPATA18 Antibody - References**

Iida H, Ichinose J, Kaneko T, et al. Complementary DNA cloning of rat spetex-1, a spermatid-expressing gene-1, encoding a 63 kDa cytoplasmic protein of elongate spermatids. *Mol. Reprod. Dev.* 2004; 68:385-93.

Bornstein C, Brosh R, Molchadsky A, et al. SPATA18, a spermatogenesis-associated gene, is a novel transcriptional target of p53 and p63. *Mol. Cell Biol.* 2011; 31:1679-89

Miyamoto Y, Kitamura N, Nakamura Y, et al. Possible existence of lysosome-like organella within mitochondria and its role in mitochondrial quality control. *PLoS One* 2011; 6:e16054.