

## Rabbit SMCHD1 Polyclonal Antibody | anti-SMCHD1 antibody

SMCHD1 Antibody

| CATALOG # | HOST   | REACTIVITY                                                                                                              | APPLICATIONS |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------|--------------|
| AAA328969 | Rabbit | Human, Mouse, Rat<br>Predicted Reactivity: Pig(100%), Bovine(100%), Sheep(100%), Rabbit(100%), Dog(100%), Chicken(100%) | ELISA        |

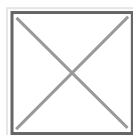
### PRODUCT SYNONYMS

SMCHD1; Polyclonal Antibody; SMCHD1 Antibody; BAMS; FSHD2; KIAA0650; SMC hinge domain containing 1; SMC hinge domain containing protein 1; Smchd1; SMHD1\_HUMAN; Structural maintenance of chromosomes flexible hinge domain containing 1; Structural maintenance of chromosomes flexible hinge domain-containing protein 1; anti-SMCHD1 antibody

### PRODUCT SPECIFICATIONS

|                                                  |                                                                                                                          |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Host                                             | Rabbit                                                                                                                   |
| Reactivity                                       | Human, Mouse, Rat<br>Predicted Reactivity: Pig(100%), Bovine(100%), Sheep(100%), Rabbit(100%), Dog(100%), Chicken(100%)  |
| Clonality                                        | Polyclonal                                                                                                               |
| Isotype                                          | IgG                                                                                                                      |
| Specificity                                      | SMCHD1 Antibody detects endogenous levels of total SMCHD1.                                                               |
| Purity/Purification                              | The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin (Thermo Fisher Scientific). |
| Form/Format                                      | Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol                  |
| Concentration                                    | 1mg/ml (varies by lot)                                                                                                   |
| Sequence Length                                  | 2005                                                                                                                     |
| Applicable Applications for anti-SMCHD1 antibody | ELISA                                                                                                                    |
| Immunogen                                        | A synthesized peptide derived from human SMCHD1, corresponding to a region within C-terminal amino acids.                |
| Fragment                                         | Fab fragment                                                                                                             |
| Preparation and Storage                          | Store at -20 degree C. Stable for 12 months from date of receipt.                                                        |

### IMAGES



#### IHC (Immunohistochemistry)

AAA328969 at 1/100 staining Mouse lung tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4Â°C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



#### WB (Western Blot)

Western blot analysis of extracts from MCF-7, using SMCHD1 Antibody. The lane on the left was treated with blocking peptide.



**WB (Western Blot)**

Western blot analysis of extracts from Colo205, using SMCHD1 Antibody. The lane on the left was treated with blocking peptide.

**ADDITIONAL INFORMATION**

|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Related Product Information for anti-SMCHD1 antibody</b> | <p>Function: Non-canonical member of the structural maintenance of chromosomes (SMC) protein family that plays a key role in epigenetic silencing by regulating chromatin architecture (By similarity). Promotes heterochromatin formation in both autosomes and chromosome X, probably by mediating the merge of chromatin compartments (By similarity). Plays a key role in chromosome X inactivation in females by promoting the spreading of heterochromatin (PubMed:23542155). Recruited to inactivated chromosome X by Xist RNA and acts by mediating the merge of chromatin compartments: promotes random chromatin interactions that span the boundaries of existing structures, leading to create a compartment-less architecture typical of inactivated chromosome X (By similarity). Required to facilitate Xist RNA spreading (By similarity). Also required for silencing of a subset of clustered autosomal loci in somatic cells, such as the DUX4 locus (PubMed:23143600). Has ATPase activity; may participate in structural manipulation of chromatin in an ATP-dependent manner as part of its role in gene expression regulation (PubMed:29748383). Also plays a role in DNA repair: localizes to sites of DNA double-strand breaks in response to DNA damage to promote the repair of DNA double-strand breaks (PubMed:25294876, PubMed:24790221). Acts by promoting non-homologous end joining (NHEJ) and inhibiting homologous recombination (HR) repair (PubMed:25294876).</p> <p>Post Translational Modifications: Sumoylated with SUMO1.</p> <p>Subcellular Location: Chromosome. Note: Recruited to inactivated chromosome X in females by Xist RNA (By similarity). Localizes at sites of DNA damage at double-strand breaks (DSBs) (PubMed:25294876, PubMed:24790221).</p> <p>Subunit Structure: Homodimer; homodimerizes via its SMC hinge domain (By similarity). Interacts with LRIF1 (PubMed:23542155).</p> <p>Similarity: Atypical member of the structural maintenance of chromosomes (SMC) protein family. Like other members of the SMC family, has ATPase activity, which is probably necessary for its engagement with chromatin, and a SMC hinge domain. However, the SMC hinge domain adopts an unconventional homodimeric arrangement augmented by an intermolecular coiled coil formed between the two monomers. This suggests that protein may assemble as a head-to-head parallel dimer without adopting a hairpin shape at the hinge domain, unlike the dimeric arrangement conventionally found in other members of the SMC protein family. The SMC hinge domain binds DNA and RNA. Belongs to the SMC family. Highly divergent.</p> |
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**NCBI AND UNIPROT INFORMATION**

|                                  |                                                                                                |
|----------------------------------|------------------------------------------------------------------------------------------------|
| NCBI GI #                        | 148839305                                                                                      |
| NCBI GeneID                      | 23347                                                                                          |
| NCBI Accession #                 | NP_056110.2                                                                                    |
| NCBI GenBank Nucleotide #        | NP_056110.2                                                                                    |
| UniProt Accession #              | A6NHR9                                                                                         |
| Molecular Weight                 | Observed Molecular Weight: (Observed)226kD.<br>Predicted Molecular Weight: (Calculated)226kDa. |
| NCBI Official Full Name          | structural maintenance of chromosomes flexible hinge domain-containing protein 1               |
| NCBI Official Synonym Full Names | structural maintenance of chromosomes flexible hinge domain containing 1                       |
| NCBI Official Symbol             | SMCHD1                                                                                         |
| NCBI Official Synonym Symbols    | BAMS; FSHD2                                                                                    |

|                            |                                                                                  |
|----------------------------|----------------------------------------------------------------------------------|
| NCBI Protein Information   | structural maintenance of chromosomes flexible hinge domain-containing protein 1 |
| UniProt Protein Name       | Structural maintenance of chromosomes flexible hinge domain-containing protein 1 |
| UniProt Gene Name          | <b>SMCHD1</b>                                                                    |
| UniProt Synonym Gene Names | KIAA0650                                                                         |
| UniProt Entry Name         | SMHD1_HUMAN                                                                      |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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