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# KD-Validated Anti-SMCHD1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1765

## Product Information

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| **Application** | WB, ICC |
| **Primary Accession** | A6NHR9 |
| **Reactivity** | Rat, Human |
| **Clonality** | Monoclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | 24GB2385 |
| **Calculated MW** | 226374 |
| **Gene Name** | SMCHD1 |
| **Aliases** | SMCHD1; Structural Maintenance Of Chromosomes Flexible Hinge Domain Containing 1; KIAA0650; FSHD2; Structural Maintenance Of Chromosomes Flexible Hinge Domain-Containing Protein 1; SMC Hinge Domain-Containing Protein 1; EC 3.6.1.-; BAMS |
| **Immunogen** | A synthesized peptide derived from human SMCHD1 |

## Additional Information

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| **Gene ID** | 23347 |
| **Other Names** | Structural maintenance of chromosomes flexible hinge domain-containing protein 1, 3.6.1.-, SMCHD1 (HGNC:29090) |

## Protein Information

**Name** SMCHD1 ( HGNC:29090)

**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

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| | DNA double-strand breaks (PubMed:24790221, PubMed:25294876). Acts by promoting non- homologous end joining (NHEJ) and inhibiting homologous recombination (HR) repair (PubMed:25294876). |
| **Cellular 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:24790221, PubMed:25294876). {ECO:0000250\|UniProtKB:Q6P5D8, ECO:0000269\|PubMed:24790221, ECO:0000269\|PubMed:25294876} |

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