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KD-Validated Anti-SMCHD1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1765

Specification

KD-Validated Anti-SMCHD1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, ICC**
Primary Accession	A6NHR9
Reactivity	**Rat, Human**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 226 kDa , observed , 226 kDa KDa**
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**

KD-Validated Anti-SMCHD1 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**23347**

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

KD-Validated Anti-SMCHD1 Rabbit Monoclonal Antibody - 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:<a

href="http://www.uniprot.org/citations/23143600" target="_blank">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:24790221, PubMed:25294876). Acts by promoting non- homologous end joining (NHEJ) and inhibiting homologous recombination (HR) repair (PubMed:25294876).

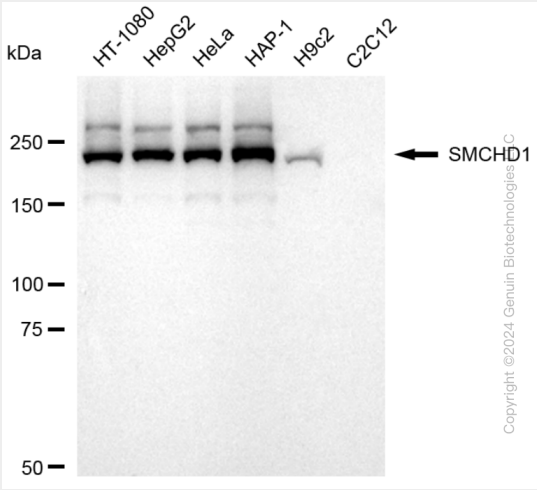
Cellular Location
Chromosome. Note=Recruited to inactivated chromosome X in females by Xist RNA (By similarity). Localizes at sites of DNA damage at double-strand breaks (DSBs) (PubMed:24790221, PubMed:25294876). {ECO:0000250|UniProtKB:Q6P5D8, ECO:0000269|PubMed:24790221, ECO:0000269|PubMed:25294876}

KD-Validated Anti-SMCHD1 Rabbit Monoclonal 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 Cytomety
- Cell Culture

KD-Validated Anti-SMCHD1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-SMCHD1 antibody (Cat#AGI1765). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-SMCHD1 antibody (Cat#AGI1765, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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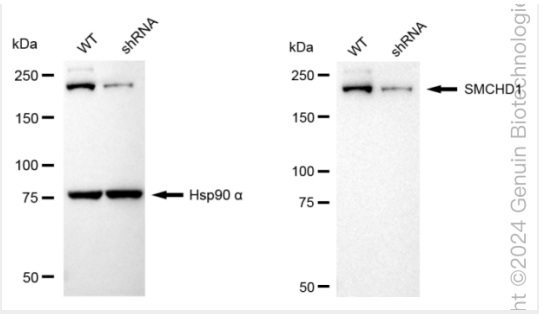
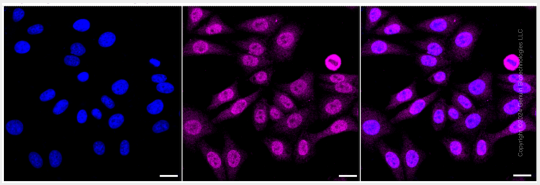


Western blotting analysis using anti-SMCHD1 antibody (Cat#AGI1765). SMCHD1 expression in wild type (WT) and SMCHD1 shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-SMCHD1 antibody (Cat#AGI1765, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Immunocytochemical staining of HepG2 cells with anti-SMCHD1 antibody (Cat#AGI1765, 1:1,000). Nuclei were stained blue with DAPI; SMCHD1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.