

SmarcAL1 (E-12): sc-166209

BACKGROUND

SmarcAL1 (SWI/SNF-related matrix-associated Actin-dependent regulator of chromatin subfamily A-like protein 1), also known as HARP (HepA-related protein) or HHARP, is a 954 amino acid member of the SWI/SNF family of helicase and ATPase proteins. Localized to the nucleus, SmarcAL1 is a ubiquitously expressed protein that functions in ATP-dependent nucleosome-remodeling activities. SmarcAL1 contains one conserved C-terminal SNF2 domain, one helicase ATP-binding domain and two HARP domains. Defects in the gene encoding SmarcAL1 are the cause of Schimke immuno-osseous dysplasia (SIOD), an autosomal recessive disorder characterized by renal dysfunction, spondyloepiphyseal dysplasia and T cell immunodeficiency.

REFERENCES

1. Coleman, M.A., et al. 2002. Cloning and characterization of HARP/SmarcAL1: a prokaryotic HepA-related SNF2 helicase protein from human and mouse. *Genomics* 65: 274-282.
2. Boerkoel, C.F., et al. 2002. Mutant chromatin remodeling protein SmarcAL1 causes Schimke immuno-osseous dysplasia. *Nat. Genet.* 30: 215-220.
3. Lou, S., et al. 2002. Longevity in Schimke immuno-osseous dysplasia. *J. Med. Genet.* 39: 922-925.

CHROMOSOMAL LOCATION

Genetic locus: SMARCAL1 (human) mapping to 2q35.

SOURCE

SmarcAL1 (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 134-166 within an internal region of SmarcAL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166209 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SmarcAL1 (E-12) is recommended for detection of SmarcAL1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SmarcAL1 siRNA (h): sc-63042, SmarcAL1 shRNA Plasmid (h): sc-63042-SH and SmarcAL1 shRNA (h) Lentiviral Particles: sc-63042-V.

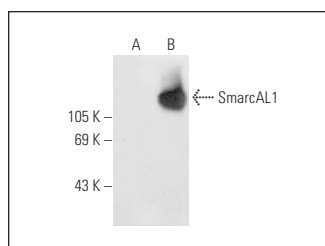
Molecular Weight of SmarcAL1: 110 kDa.

Positive Controls: SmarcAL1 (h2): 293T Lysate: sc-115969 or DU 145 nuclear extract: sc-24960.

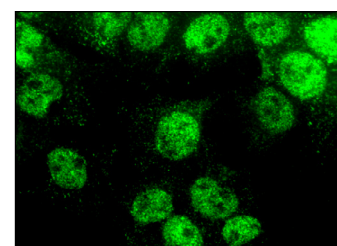
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SmarcAL1 (E-12): sc-166209. Western blot analysis of SmarcAL1 expression in non-transfected: sc-117752 (A) and human SmarcAL1 transfected: sc-115969 (B) 293T whole cell lysates.



SmarcAL1 (E-12): sc-166209. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Carvajal-Maldonado, D., et al. 2018. Perturbing cohesin dynamics drives MRE11 nuclease-dependent replication fork slowing. *Nucleic Acids Res.* 47: 1294-1310.
2. Quinet, A., et al. 2019. PRIMPOL-mediated adaptive response suppresses replication fork reversal in BRCA-deficient cells. *Mol. Cell* 77: 461-474.
3. Feng, E., et al. 2020. CSB cooperates with SmarcAL1 to maintain telomere stability in ALT cells. *J. Cell Sci.* 133 pii: jcs234914.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **A20 (A-12): sc-166692** for A20 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.