



MND1 (D-14): sc-161864

BACKGROUND

MND1 (meiotic nuclear division protein 1 homolog), also known as GAJ, is a 205 amino acid nuclear protein required for proper homologous chromosome pairing and meiotic double-strand break repair. Belonging to the MND1 family, MND1 localizes to chromatin during meiotic prophase and preferentially binds double-stranded DNA. MND1 forms a stable heterodimeric complex with HOP2, which binds DNA to activate the recombinase activity of DMC1 and RAD51. Disruption of the MND1-HOP2 complex leads to failure in meiotic recombination and extreme defects in homologous chromosome synapsis. MND1 is encoded by a gene that maps to human chromosome 4, which houses nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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3. Velinov, M., et al. 2005. Polycystic kidneys and del(4)(q21.1q21.3): further delineation of a distinct phenotype. *Eur. J. Med. Genet.* 48: 51-55.
4. Enomoto, R., et al. 2006. Stimulation of DNA strand exchange by the human TBPIP/HOP2-MND1 complex. *J. Biol. Chem.* 281: 5575-5581.
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CHROMOSOMAL LOCATION

Genetic locus: MND1 (human) mapping to 4q31.3; Mnd1 (mouse) mapping to 3 F1.

STORAGE

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

SOURCE

MND1 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MND1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161864 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-161864 X, 200 µg/0.1 ml.

APPLICATIONS

MND1 (D-14) is recommended for detection of MND1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 MND1 siRNA (h): sc-89043, MND1 siRNA (m): sc-149487, MND1 shRNA Plasmid (h): sc-89043-SH, MND1 shRNA Plasmid (m): sc-149487-SH, MND1 shRNA (h) Lentiviral Particles: sc-89043-V and MND1 shRNA (m) Lentiviral Particles: sc-149487-V.

MND1 (D-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of MND1: 24 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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