

APLF (N-16): sc-161354

BACKGROUND

APLF (aprataxin and PNKP like factor), also known as Xip1, PALF, or C2orf13, is a 511 amino acid protein that contains one FHA domain and 2 C₂H₂-type zinc fingers. Localized to both the nucleus and the cytoplasm, APLF interacts with XRCC1, XRCC4 and Ku-86 and, via these interactions, is involved in single-strand and double-strand DNA break repair. APLF is subject to post-translational phosphorylation in response to DNA breaks. The gene encoding APLF maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2p13.3.

REFERENCES

1. Kanno, S., et al. 2007. A novel human AP endonuclease with conserved zinc-finger-like motifs involved in DNA strand break responses. *EMBO J.* 26: 2094-2103.
2. Bekker-Jensen, S., et al. 2007. Human Xip1 (C2orf13) is a novel regulator of cellular responses to DNA strand breaks. *J. Biol. Chem.* 282: 19638-19643.
3. Iles, N., et al. 2007. APLF (C2orf13) is a novel human protein involved in the cellular response to chromosomal DNA strand breaks. *Mol. Cell. Biol.* 27: 3793-3803.
4. Macrae, C.J., et al. 2008. APLF (C2orf13) facilitates nonhomologous end-joining and undergoes ATM-dependent hyperphosphorylation following ionizing radiation. *DNA Repair* 7: 292-302.
5. Rulten, S.L., et al. 2008. APLF (C2orf13) is a novel component of poly(ADP-ribose) signaling in mammalian cells. *Mol. Cell. Biol.* 28: 4620-4628.
6. Ahel, I., et al. 2008. Poly(ADP-ribose)-binding zinc finger motifs in DNA repair/checkpoint proteins. *Nature* 451: 81-85.

CHROMOSOMAL LOCATION

Genetic locus: APLF (human) mapping to 2p13.3; Aplf (mouse) mapping to 6 D1.

SOURCE

APLF (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of APLF 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-161354 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

APLF (N-16) is recommended for detection of APLF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

APLF (N-16) is also recommended for detection of APLF in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for APLF siRNA (h): sc-94862, APLF siRNA (m): sc-141154, APLF shRNA Plasmid (h): sc-94862-SH, APLF shRNA Plasmid (m): sc-141154-SH, APLF shRNA (h) Lentiviral Particles: sc-94862-V and APLF shRNA (m) Lentiviral Particles: sc-141154-V.

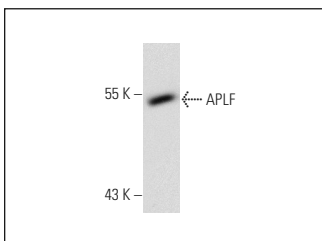
Molecular Weight of APLF: 57 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



APLF (N-16): sc-161354. Western blot analysis of APLF expression in KNRK whole cell lysate.

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.