SANTA CRUZ BIOTECHNOLOGY, INC.

Flightless I (116.40): sc-21716

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The *Drosophila melanogaster* Flightless I gene is required for normal cellularization of the syncytial blastoderm in early embryogenesis and in the structural organization of indirect flight muscle. The Flightless I protein contains an Actin-binding domain with homology to the Gelsolin family and is likely to be involved in Actin cytoskeletal rearrangements. Flightless I also contains an N-terminal leucine-rich repeat protein-protein interaction domain. The Flightless I protein localizes predominantly to the nucleus and translocates to the cytoplasm following serum stimulation. In cells stimulated to migrate, the Flightless I protein co-localizes with β-Tubulin- and Actin-based structures. The human FLI gene is mapped within the Smith-Magenis microdeletion region of chromosome 17 at 17p11.2. Smith-Magenis syndrome is characterized by short stature, brachydactyly, developmental delay, dysmorphic features, sleep disturbances and behavioral problems.

CHROMOSOMAL LOCATION

Genetic locus: FLII (human) mapping to 17p11.2; Flii (mouse) mapping to 11 B2.

SOURCE

Flightless I (116.40) is a mouse monoclonal antibody raised against the N-terminus of Flightless I of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Flightless I (116.40) is available conjugated to agarose (sc-21716 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21716 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21716 PE), fluorescein (sc-21716 FITC), Alexa Fluor® 488 (sc-21716 AF488), Alexa Fluor® 546 (sc-21716 AF546), Alexa Fluor® 594 (sc-21716 AF594) or Alexa Fluor® 647 (sc-21716 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21716 AF680) or Alexa Fluor® 790 (sc-21716 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Flightless I (116.40) is recommended for detection of Flightless I 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

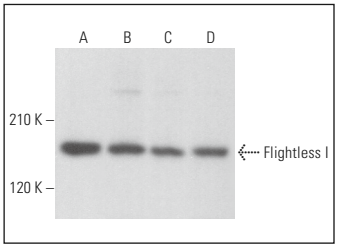
Suitable for use as control antibody for Flightless I siRNA (h): sc-35386, Flightless I siRNA (m): sc-35387, Flightless I shRNA Plasmid (h): sc-35386-SH, Flightless I shRNA Plasmid (m): sc-35387-SH, Flightless I shRNA (h) Lentiviral Particles: sc-35386-V and Flightless I shRNA (m) Lentiviral Particles: sc-35387-V.

Molecular Weight of Flightless I: 145 kDa.

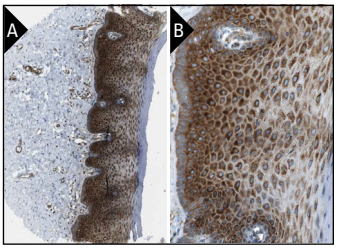
STORAGE

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

DATA



Flightless I (116.40): sc-21716. Western blot analysis of Flightless I expression in Raji (**A**), L6 (**B**), C2C12 (**C**) and WEHI-231 (**D**) whole cell lysates.



Flightless I (116.40): sc-21716. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix, uterine tissue showing cytoplasmic staining of squamous epithelial cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Adams, D.H., et al. 2008. Gender specific effects on the Actin-remodelling protein Flightless I and TGF-β1 contribute to impaired wound healing in aged skin. Int. J. Biochem. Cell Biol. 40: 1555-1569.
2. Mohammad, I., et al. 2012. Flightless I is a focal adhesion-associated Actin-capping protein that regulates cell migration. FASEB J. 26: 3260-3272.
3. Proszynski, T.J. and Sanes, J.R. 2013. Amotl2 interacts with LL5β, localizes to podosomes and regulates postsynaptic differentiation in muscle. J. Cell Sci. 126: 2225-2235.
4. Turner, C.T., et al. 2015. Fibroblast-specific upregulation of Flightless I impairs wound healing. Exp. Dermatol. 24: 692-697.
5. Marei, H., et al. 2016. Differential Rac1 signalling by guanine nucleotide exchange factors implicates FLII in regulating Rac1-driven cell migration. Nat. Commun. 7: 10664.
6. Nayak, A., et al. 2017. Flightless-I governs cell fate by recruiting the SUMO isopeptidase SENP3 to distinct HOX genes. Epigenetics Chromatin 10: 15.
7. Kopecki, Z., et al. 2018. Recombinant leucine-rich repeat flightless-interacting protein-1 improves healing of acute wounds through its effects on proliferation inflammation and collagen deposition. Int. J. Mol. Sci. 19: 2014.
8. Kopecki, Z., et al. 2019. Flightless I exacerbation of inflammatory responses contributes to increased colonic damage in a mouse model of dextran sulphate sodium-induced ulcerative colitis. Sci. Rep. 9: 12792.
9. Jackson, J.E., et al. 2020. *In vitro* analysis of the effect of Flightless I on murine tenocyte cellular functions. J. Orthop. Surg. Res. 15: 170.

RESEARCH USE

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