

Flightless I (116.40): sc-21716

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 μ g 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 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21716 HRP), 200 μ g/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 μ g/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 μ g/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 μ g per 100-500 μ g 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).

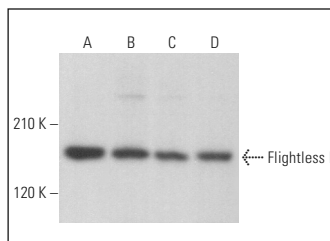
Suitable for use as control antibody for Flightless I siRNA (h): sc-35386, Flightless I siRNA (m): sc-35387, Flightless I shRNA Plasmid (h): sc-35386-SH, Flightless I shRNA Plasmid (m): sc-35387-SH, Flightless I shRNA (h) Lentiviral Particles: sc-35386-V and Flightless I shRNA (m) Lentiviral Particles: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

Molecular Weight of Flightless I: 145 kDa.

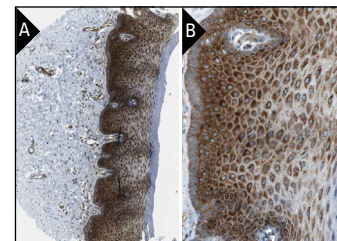
STORAGE

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

- Adams, D.H., et al. 2008. Gender specific effects on the actin-remodelling protein Flightless I and TGF- β 1 contribute to impaired wound healing in aged skin. *Int. J. Biochem. Cell Biol.* 40: 1555-1569.
- Mohammad, I., et al. 2012. Flightless I is a focal adhesion-associated Actin-capping protein that regulates cell migration. *FASEB J.* 26: 3260-3272.
- Proszynski, T.J. and Sanes, J.R. 2013. Amotl2 interacts with LL5 β , localizes to podosomes and regulates postsynaptic differentiation in muscle. *J. Cell Sci.* 126: 2225-2235.
- Turner, C.T., et al. 2015. Fibroblast-specific upregulation of Flightless I impairs wound healing. *Exp. Dermatol.* 24: 692-697.
- 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.
- Nayak, A., et al. 2017. Flightless-I governs cell fate by recruiting the SUMO isopeptidase SENP3 to distinct HOX genes. *Epigenetics Chromatin* 10: 15.
- 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.
- 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.
- 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.