

# FRG1 (C-5): sc-377040

## BACKGROUND

FRG1 is a 258 amino acid nuclear protein encoded by the human gene FRG1. The FRG1 protein is thought to be involved in pre-messenger RNA splicing. FRG1 plays a role in processing pre-rRNA, assembling rRNA into ribosomal subunits and may also be involved in pre-mRNA splicing. Facioscapulohumeral muscular dystrophy (FSHD) is a disease state associated with internal deletions among the tandem array of D4Z4 repeats on chromosome 4q35, a subtelomere region of chromosome 4 that contains the FRG1 gene. The muscle degeneration that is common in patients with FSHD results from increased expression of genes proximal to the deletion, including FRG1. In addition to muscle degeneration, most FSHD patients also develop abnormalities of the retinal vasculature. FRG1 is expressed in adult and fetal muscle, lymphocytes and placenta. It can be localized to nuclear Cajal bodies or speckles.

## REFERENCES

1. van Deutekom, J.C., et al. 1996. Identification of the first gene (FRG1) from the FSHD region on human chromosome 4q35. *Hum. Mol. Genet.* 5: 581-590.
2. Grewal, P.K., et al. 1997. The mouse homolog of FRG1, a candidate gene for FSHD, maps proximal to the myodystrophy mutation on chromosome 8. *Mamm. Genome* 8: 394-398.
3. Grewal, P.K., et al. 1998. FRG1, a gene in the FSH muscular dystrophy region on human chromosome 4q35, is highly conserved in vertebrates and invertebrates. *Gene* 216: 13-19.
4. Grewal, P.K., et al. 1999. Recent amplification of the human FRG1 gene during primate evolution. *Gene* 227: 79-88.
5. Tam, R., et al. 2004. The 4q subtelomere harboring the FSHD locus is specifically anchored with peripheral heterochromatin unlike most human telomeres. *J. Cell Biol.* 167: 269-279.

## CHROMOSOMAL LOCATION

Genetic locus: FRG1 (human) mapping to 4q35.2; Frg1 (mouse) mapping to 8 A4.

## SOURCE

FRG1 (C-5) is a mouse monoclonal antibody raised against amino acids 1-258 representing full length FRG1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FRG1 (C-5) is available conjugated to agarose (sc-377040 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377040 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377040 PE), fluorescein (sc-377040 FITC), Alexa Fluor<sup>®</sup> 488 (sc-377040 AF488), Alexa Fluor<sup>®</sup> 546 (sc-377040 AF546), Alexa Fluor<sup>®</sup> 594 (sc-377040 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-377040 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-377040 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-377040 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

FRG1 (C-5) is recommended for detection of FRG1 of mouse, rat and 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 FRG1 siRNA (h): sc-62350, FRG1 siRNA (m): sc-62351, FRG1 shRNA Plasmid (h): sc-62350-SH, FRG1 shRNA Plasmid (m): sc-62351-SH, FRG1 shRNA (h) Lentiviral Particles: sc-62350-V and FRG1 shRNA (m) Lentiviral Particles: sc-62351-V.

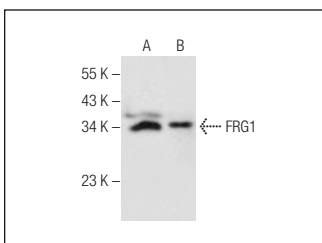
Molecular Weight of FRG1: 29 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or HeLa whole cell lysate: sc-2200.

## 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



FRG1 (C-5): sc-377040. Western blot analysis of FRG1 expression in HeLa (A) and Jurkat (B) nuclear extracts.

## 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](http://www.scbt.com) for detailed protocols and support products.

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