



## FREM3 (G-19): sc-82169

### BACKGROUND

FREM3 (FRAS1-related extracellular matrix protein 3) is a 2,135 amino acid secreted protein that belongs to the FRAS1 family. Other members of this family include FRAS1, FREM1 and FREM2. FREM3 contains three calx- $\beta$  domains, which bind calcium with high affinity, and twelve CSPG repeats. Functioning within the basement membrane, FREM3 follows the distribution pattern of Collagen Type VII in skin basement membrane, though it is additionally found in the basement membrane of several internal epithelia where collagen VII is absent. Due to its localization, FREM3 probably plays a role in cell adhesion. The gene encoding FREM3 is located on human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

### REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608946. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Dalezios, Y., Papasozomenos, B., Petrou, P. and Chalepakis, G. 2007. Ultrastructural localization of FRAS1 in the sublamina densa of embryonic epithelial basement membranes. *Arch. Dermatol. Res.* 299: 337-343.
4. Kiyozumi, D., Sugimoto, N., Nakano, I. and Sekiguchi, K. 2007. FREM3, a member of the 12 CSPG repeats-containing extracellular matrix protein family, is a basement membrane protein with tissue distribution patterns distinct from those of FRAS1, FREM2, and QBRICK/FREM1. *Matrix Biol.* 26: 456-462.
5. Petrou, P., Pavlakis, E., Dalezios, Y. and Chalepakis, G. 2007. Basement membrane localization of FREM3 is independent of the FRAS1/FREM1/FREM2 protein complex within the sublamina densa. *Matrix Biol.* 26: 652-658.
6. Petrou, P., Makrygiannis, A.K. and Chalepakis, G. 2008. The FRAS1/FREM family of extracellular matrix proteins: structure, function, and association with Fraser syndrome and the mouse bleb phenotype. *Connect. Tissue Res.* 49: 277-282.
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8. Pavlakis, E., Makrygiannis, A.K., Chiotaki, R. and Chalepakis, G. 2008. Differential localization profile of FRAS1/FREM proteins in epithelial basement membranes of newborn and adult mice. *Histochem. Cell Biol.* 130: 785-793.

### STORAGE

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

### CHROMOSOMAL LOCATION

Genetic locus: FREM3 (human) mapping to 4q31.21.

### SOURCE

FREM3 (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of FREM3 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82169 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

FREM3 (G-19) is recommended for detection of FREM3 of 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); non cross-reactive with family members FREM1 or FREM2.

Suitable for use as control antibody for FREM3 siRNA (h): sc-75063, FREM3 shRNA Plasmid (h): sc-75063-SH and FREM3 shRNA (h) Lentiviral Particles: sc-75063-V.

Molecular Weight of FREM3: 238 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](http://www.scbt.com) or our catalog for detailed protocols and support products.