

FAM20C (D-12): sc-160322

BACKGROUND

The FAM20 proteins are a family of secreted proteins that regulate differentiation and function of hematopoietic and other tissues. FAM20C, also known as DMP4 (Dentin matrix protein 4), is a 570 amino acid secreted protein that binds calcium and may play a role in dentin mineralization. Defects in the gene encoding FAM20C are the cause of Raine syndrome (lethal osteosclerotic bone dysplasia), an autosomal recessive osteosclerotic bone dysplasia, that is characterized by generalized osteosclerosis, microencephaly and craniofacial dysplasia. Usually, affected individuals survive only days or weeks. The mutations of the FAM20C gene include four nonsynonymous base changes and four splice-site changes that have a detrimental affect on splicing.

REFERENCES

1. Nalbant, D., et al. 2005. FAM20: an evolutionarily conserved family of secreted proteins expressed in hematopoietic cells. *BMC Genomics* 6: 11.
2. Simpson, M.A., et al. 2007. Mutations in FAM20C are associated with lethal osteosclerotic bone dysplasia (Raine syndrome), highlighting a crucial molecule in bone development. *Am. J. Hum. Genet.* 81: 906-912.
3. Hao, J., et al. 2007. Dentin matrix protein 4, a novel secretory calcium-binding protein that modulates odontoblast differentiation. *J. Biol. Chem.* 282: 15357-15365.
4. Simpson, M.A., et al. 2009. Mutations in FAM20C also identified in non-lethal osteosclerotic bone dysplasia. *Clin. Genet.* 75: 271-276.
5. Fradin, M., et al. 2010. Osteosclerotic bone dysplasia in siblings with a Fam20C mutation. *Clin. Genet.* 80: 177-183.
6. Kochar, G.S., et al. 2010. Raine syndrome: a clinical, radiographic and genetic investigation of a case from the Indian subcontinent. *Clin. Dysmorphol.* 19: 153-156.
7. Wang, X., et al. 2010. Expression of FAM20C in the osteogenesis and odontogenesis of mouse. *J. Histochem. Cytochem.* 58: 957-967.

CHROMOSOMAL LOCATION

Genetic locus: FAM20C (human) mapping to 7p22.3; Fam20c (mouse) mapping to 5 G2.

SOURCE

FAM20C (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FAM20C 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-160322 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

FAM20C (D-12) is recommended for detection of FAM20C of mouse, rat and 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 FAM20A or FAM20B.

Suitable for use as control antibody for FAM20C siRNA (h): sc-89666, FAM20C siRNA (m): sc-145034, FAM20C shRNA Plasmid (h): sc-89666-SH, FAM20C shRNA Plasmid (m): sc-145034-SH, FAM20C shRNA (h) Lentiviral Particles: sc-89666-V and FAM20C shRNA (m) Lentiviral Particles: sc-145034-V.

Molecular Weight of FAM20C: 64 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 or our catalog for detailed protocols and support products.