

ABCG5 (D-20): sc-18203

BACKGROUND

ABCG5 (also designated Sterolin-1) is a member of the evolutionarily conserved family of ATP-binding cassette (ABC) transporters. ABC transporters couple the energy of ATP hydrolysis to the translocation of various molecules across biological membranes. These proteins contain characteristic ATP-binding domains at the amino-terminus and a transmembrane domain in the carboxy-terminus, which forms a channel-like structure for transport. The ABCG5 gene maps to human chromosome 2p21 and is highly expressed in liver and intestine. ABCG5 and a highly homologous gene, ABCG8 (also designated Sterolin-2), are thought to regulate the uptake of dietary cholesterol and block the absorption of plant and shellfish sterols. Mutations in either ABCG5 or ABCG8 lead to sitosterolemia, a rare autosomal recessive disorder characterized by hyperabsorption of all sterols, including cholesterol and plant and shellfish sterols. Patients with this disease are hypercholesterolemic and frequently develop xanthomas, accelerated atherosclerosis and premature coronary artery disease. Therefore, ABCG5 is a critical component of the sterol transport pathway.

REFERENCES

- Schwiebert, E.M. 1999. ABC transporter-facilitated ATP conductive transport. *Am. J. Physiol.* 276: 1-8.
- Berge, K.E., et al. 2000. Accumulation of dietary cholesterol in sitosterolemia caused by mutations in adjacent ABC transporters. *Science* 290: 1771-1775.
- Lu, K., et al. 2001. Two genes that map to the STSL locus cause sitosterolemia: genomic structure and spectrum of mutations involving Sterolin-1 and Sterolin-2, encoded by ABCG5 and ABCG8, respectively. *Am. J. Hum. Genet.* 69: 278-290.
- Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (White) gene subfamily maps to human chromosome 2p21 in the region of the sitosterolemia locus. *Cytogenet. Cell Genet.* 92: 204-228.

CHROMOSOMAL LOCATION

Genetic locus: ABCG5 (human) mapping to 2p21; Abcg5 (mouse) mapping to 17 E4.

SOURCE

ABCG5 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ABCG5 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-18203 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

ABCG5 (D-20) is recommended for detection of ABCG5 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ABCG5 (D-20) is also recommended for detection of ABCG5 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ABCG5 siRNA (h): sc-41152, ABCG5 siRNA (m): sc-41153, ABCG5 shRNA Plasmid (h): sc-41152-SH, ABCG5 shRNA Plasmid (m): sc-41153-SH, ABCG5 shRNA (h) Lentiviral Particles: sc-41152-V and ABCG5 shRNA (m) Lentiviral Particles: sc-41153-V.

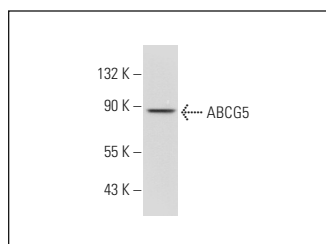
Molecular Weight of ABCG5: 75 kDa.

Positive Controls: Ramos cell lysate: sc-2216.

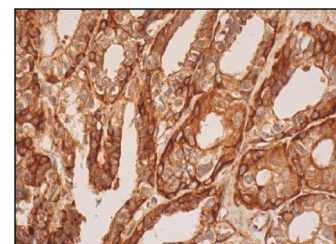
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ABCG5 (D-20): sc-18203. Western blot analysis of ABCG5 expression in Ramos whole cell lysate.



ABCG5 (D-20): sc-18203. Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic and membrane staining of glandular cells.

RESEARCH USE

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

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Try **ABCG5 (1B5E10): sc-517207**, our highly recommended monoclonal alternative to ABCG5 (D-20).