



ABCG5 (H-300): sc-25796

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

1. Schwiebert, E.M. 1999. ABC transporter-facilitated ATP conductive transport. *Am. J. Physiol.* 276: 1-8.
2. Berge, K.E., et al. 2000. Accumulation of dietary cholesterol in sitosterolemia caused by mutations in adjacent ABC transporters. *Science*. 290: 1771-1775.
3. 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.
4. 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.
5. Lee, M.H., et al. 2001. Genetic basis of sitosterolemia. *Curr. Opin. Lipidol.* 12: 141-149.
6. Lee, M.H., et al. 2001. Identification of a gene, ABCG5, important in the regulation of dietary cholesterol absorption. *Nat. Genet.* 27: 79-83.

SOURCE

ABCG5 (H-300) is a rabbit polyclonal antibody raised against amino acids 352-651 mapping at the C-terminus 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.

APPLICATIONS

ABCG5 (H-300) is recommended for detection of ATP-binding cassette subfamily G, member 5 (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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of ABCG5: 75 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.