ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

ATP Binding Cassette subfamily G, member 5 (ABCG5) Antibodies

Cat. # ABCG51-P	Human ABCG5 Control/blocking peptide # 1	**SIZE**: 100 ug
Cat. # ABCG51-A	**Rabbit** Anti-Human ABCG5 IgG # 1 (aff pure)	**SIZE**: 100 ug

The ATP binding cassette (ABC) superfamily of membrane transporters is one of the largest protein classes known, and counts for numerous proteins involved in trafficking of biological molecules across membranes, host-defense mechanism to xenobiotics. The first known members were P-glycoprotein (P-gp) and multidrug resistant protein (MRP), cause multidrug resistance when transfected into drug-sensitive cells. In addition, increasing numbers of ABC proteins have recently been identified. The human ABCG1 (ABC, subfamily G, member 1) gene encodes a member of ABC superfamily that mediates the ATP-dependent translocation of variety of amphiphilic and lipophilic molecules. ABCG2 has been identified as a candidate protein responsible for cancer multidrug resistance, the overexpression of ABCG2 was found in several drug-selective cell lines. Search made of EST databases with BLAST program led to identification of several mouse and rat sequences that had high homology to ABCG2 but that appeared to encode a unique gene. ABCG3 is the most closely related to ABCG2 with 54% amino acid identity overall. The gene, ABCG4, produces several transcripts that differ at the 5' end and encode proteins of various lengths, the ABCG4 protein is closely related to the Drosophila's white and human ABCG1 genes, and belongs to the ABCG subfamily which are involved in cholesterol transport. ABCG5 and ABCG8 are members of the G subfamily of ABC transporters, which are predicted to contain a single magnesium-dependent ATP catalytic domain N-terminal to six transmembrane segments, mutations in either of them cause an identical phenotype which is consistent with these two gene products functioning as heterodimer. ABCG6 and ABCG7 exist in Dictyostelium species of eukaryotes.

ABCG5/sterolin-1 gene product a 651aa residue in human, and 652aa each in rat and mouse, plays an important role in the selective transport of cholesterol in and out of the enterocytes and in the selective sterol excretion by liver into bile. Strongly expressed in liver, intestine and colon. Defects in ABCG5 results increased intestinal absorption of sterols and decreased biliary excretion of dietary sterols into bile; the condition is referred as sitosterolemia

Source of Antigen and Antibodies

Antigen	13-aa peptide from human **ABCG5** (gene accession # Q53T83, refs 1); **Designation (ABCG51-P, control peptide**) conjugated to KLH. Epitope location ~ C-terminus, Extracellular
Ab Host/type	Rabbit, Polyclonal
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available) purified over antigen-agarose column
-ve control	**# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control**

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of aff pure IgG at 2-20 ug/ml.

Specificity & Cross-reactivity

The ABCG51-P control peptide is 100% conserved in chimp, rat (sterolin-1), 92% in mouse and pig ABCG5/sterolin-1 No significant conservation of ABCG51-P is observed with other ABCGs (ABCG1-4, -6) or other proteins. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at:the web site).

General References: Gregory A. Graf et al (2002) J. of Clin. Inves. Vol. 110, 659-667; Lu. K et al (2001) Am. J. Hum. Genet. 69 (2), 278-290; Lee, M. H et al (2001) Nat. Genet. 27 (1), 79-83; L. Austin Doyle (1998) PNAS Vol. 95, 15665-15670.

*This product is for In vitro research use only.

Related material available from ADI

Antibodies for ABCG1 to ABCG8.

ABCG51-A-P 70806A

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