ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

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

Cat. # ABCG52-P	Rat ABCG5 control peptide # 2	**SIZE**: 100 ug
Cat. # ABCG52-A	**Rabbit** Anti-Rat ABCG5 IgG # 2 (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. ABCG proteins were able to transport substances across cellular membranes and against concentration gradient they require an input of energy, which requires the hydrolysis of ATP, directly or indirectly.

ABCG5 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	14-aa peptide from human **ABCG5** (1); **Designation (ABCG52-P, control peptide /blocking peptide**) conjugated to KLH. Epitope location ~ N-terminus Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # **ABCG52**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-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 for less than a week at 4oC.
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

Human ABCG52-P control peptide is 100% conserved in rat and 85% in mouse ABCG5. 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.

(2) Citations of ADI's Antibodies (see web site for updated list)

Iyer SPN 2005 BBA 1722, 282-292 WB

*This product is for In vitro research use only.

Related material available from ADI

Antibodies for ABCG1 to ABCG8.

Acetylcholine • BGT-1 • Dopamine • GABA (GAT1, -2, -3) • VGAT • Glycine (Glyt 1, 2) • Glutamate (GLT1, GLAST, EAAC1) • Serotonin • Proline, Vesicular GABA Transporter (VGAT) • NET • Tauriine • **Renal Physiology** Arginine Vasopressin Receptors 1/2 • Aquaporins (AQP 1-5) and Urea transporter (RUT2)

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