ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

ATP Binding Cassette subfamily G, member 8 (ABCG8) Antibodies

Cat. # ABCG82-P	Rat ABCG8 Control/blocking peptide #2	**SIZE**: 100 ug
Cat. # ABCG82-A	Rabbit Anti-Rat ABCG8 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.

Rat ABCG8 protein is alternatively spliced: A full length isoforms 3 (694-aa), isoforms 2 (671-aa; missing 56-77 aa, and 398-aa); isoforms 1 (672aa, missing 56-77 aa). Actual expression of various protein isoforms and their physiological relevance is not understood. ABCG8 may form heterodimers with ABCG5 or be tightly coupled to ABCG5 along a pathway regulating dietary-sterol absorption and excretion. ABCG8 protein is highly expressed in liver, intestine and colon. Defects in ABCG8 cause sitosterolemia.

Source of Antigen and Antibodies

Antigen	14-aa peptide from Rat **ABCG8** (protein accession # P58428, refs 1); **Designation (ABCG82-P, control peptide /blocking peptide**) conjugated to KLH. Epitope location ~
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # **ABCG82**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Control Rabbit (non-immune) Serum IgG for use as –ve control in ELISA, Western or IHC

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 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

Rat ABCG82-P control peptide is 100% conserved in rat ABCG8 isoforms 1-3. Antibody reactivity and actual expression of various protein isoforms and their physiological relevance is not understood. It is 93% conserved in mouse, 80% in human and 73% in Chimp ABCG8. No significant conservation of ABCG82-P is observed with other ABCGs (ABCG1-7) 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: Lu. K et al (2001) Am. J. Hum. Genet. 69 (2), 278-290; Berge, K. E et al (2000) Science 290 (5497), 1771-1775; 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.

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