SANTA CRUZ BIOTECHNOLOGY, INC.

# ABCG1 (E-20): sc-11150

## BACKGROUND

ABCG1 (also designated ABC8 or human white gene), a member of the evolutionary conserved family of ATP-binding cassette (ABC) transporters, exhibits high homology with the *Drosophila* white gene. ABC transporters couple the energy of ATP hydrolysis to the translocation of various molecules across biological membranes. These proteins contain characteristic ATP-binding domains and transmembrane domains which form a channel-like structure for transport. ABCG1 functions to regulate cholesterol and phospholipid transport in macrophages. ABCG1 is highly expressed in several tissues, including brain, spleen, lung and placenta, and has been localized to the cell surface and intracellular compartments of cholesterol-laden macrophages.

## CHROMOSOMAL LOCATION

Genetic locus: ABCG1 (human) mapping to 21q22.3; Abcg1 (mouse) mapping to 17 A3.3.

## SOURCE

ABCG1 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ABCG1 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-11150 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ABCG1 (E-20) is recommended for detection of ABCG1 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); slightly cross-reactive with ABCG4.

ABCG1 (E-20) is also recommended for detection of ABCG1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ABCG1 siRNA (h): sc-41138, ABCG1 siRNA (m): sc-41139, ABCG1 shRNA Plasmid (h): sc-41138-SH, ABCG1 shRNA Plasmid (m): sc-41139-SH, ABCG1 shRNA (h) Lentiviral Particles: sc-41138-V and ABCG1 shRNA (m) Lentiviral Particles: sc-41139-V.

Molecular Weight of ABCG1: 110 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

## RESEARCH USE

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

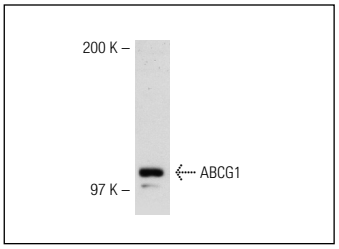
## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA




ABCG1 (E-20): sc-11150. Western blot analysis of ABCG1 expression in HeLa whole cell lysate.

## SELECT PRODUCT CITATIONS


1. O'Connell, B.J., et al. 2004. Cellular physiology of cholesterol efflux in vascular endothelial cells. Circulation 110: 2881-2888.
2. Wang, N., et al. 2006. LXR-induced redistribution of ABCG1 to plasma membrane in macrophages enhances cholesterol mass efflux to HDL. Arterioscler. Thromb. Vasc. Biol. 26: 1310-1316.
3. Joyce, C.W. and Wagner, E.M. 2006. ABCA1 overexpression in the liver of LDLr-KO mice leads to accumulation of pro-atherogenic lipoproteins and enhanced atherosclerosis. J. Biol. Chem. 281: 33053-33065.
4. Uehara, Y., et al. 2007. Unsaturated fatty acids suppress the expression of the ATP-binding cassette transporter G1 (ABCG1) and ABCA1 genes via an LXR/RXR responsive element. Atherosclerosis 191: 11-21.
5. Baker, A.D., et al. 2010. Targeted PPARγ deficiency in alveolar macrophages disrupts surfactant catabolism. J. Lipid Res. 51: 1325-1331.
6. Yeong, P., et al. 2010. Tryptase promotes human monocyte-derived macrophage foam cell formation by suppressing LXRα activation. Biochim. Biophys. Acta 1801: 567-576.
7. McLaren, J.E., et al. 2010. The TNF-like protein 1A-death receptor 3 pathway promotes macrophage foam cell formation *in vitro*. J. Immunol. 184: 5827-5834.
8. McLaren, J.E., et al. 2010. IL-33 reduces macrophage foam cell formation. J. Immunol. 185: 1222-1229.
9. Chen, C.Y., et al. 2010. Wogonin promotes cholesterol efflux by increasing protein phosphatase 2B-dependent dephosphorylation at ATP-binding cassette transporter-A1 in macrophages. J. Nutr. Biochem. 22: 1015-1021.
10. Elali, A., et al. 2011. Liver X receptor activation enhances blood-brain barrier integrity in the ischemic brain and increases the abundance of ATP-binding cassette transporters ABCB1 and ABCC1 on brain capillary cells. Brain Pathol. 22: 175-87.
11. Choi, H.J., et al. 2012. Patterns of gene and metabolite define the effects of extracellular osmolality on kidney collecting duct. J. Proteome Res. 11: 3816-3828.