### Catalog Number

**HM3027** (lot number and expiry date are indicated on the label)

### Description

Monoclonal antibody 3D12 reacts with rat class B scavenger receptor type I (SR-BI). Scavenger receptors have been studied primarily for their ability to bind and internalize modified lipoproteins. They have been found in the development of atherosclerosis and other macrophage-associated functions. Scavenger receptors also function as pattern recognition receptors for a wide variety of pathogens. This finding indicates a potential role in host defense. SR-BI belongs together with CD36 to the class B scavenger receptor family.

SR-BI is a multiligand membrane protein existing in various organs such as the liver and various cell types such as endothelial cells, macrophages, brain cells, Leydig cells and Sertoli cells. SR-BI has been found as a receptor for phospholipids, free and (lipoprotein)-bound ApoE, lipid-bound ApoA-I, HDL, hypochlorite-modified LDL and more. In liver, the PDZK-1 (and possible other PDZ domains) of SR-BI has been found to be essential for cell surface expression and, hence, reverse cholesterol transport. In the brain, the presence of SR-BI seems to be involved in the uptake of oxidatively modified lipoproteins and beta-amyloid protein complexed with ApoE, suggesting SR-BI to be an important tool for studies on neurodegenerative disorders. In the testis, SR-BI is expressed in two somatic cell types: Leydig cells and Sertoli cells. SR-BI functions at least partly as a phosphatidyl serine receptor (PSR), enabling Sertoli cells to recognize and phagocytose apoptotic spermatogenic cells at all stages of differentiation. Monoclonal antibody 3D12 blocks the biological activity of rat SR-BI. For example, it inhibits the ability of SR-BI to mediate the incorporation of lipids of HDL by SR-BI expressing cells.

### Species

Mouse IgG1

### Formulation

1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS containing 0.1% bovine serum albumin.

### Application

The monoclonal antibody 3D12 can be used for immunohistology on frozen sections and flow cytometry. Furthermore, the monoclonal antibody 3D12 is useful for neutralization of the biological activity of SR-BI.

### Use

For flow cytometry and immunohistology dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. For neutralization of biological activity in vitro dilutions have to be made according to the amounts of SR-BI to be inactivated.

### Storage and Stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.

### Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and Federal rules in the use of this product. Hy Cult Biotech is not responsible for any patent infringements that might result with the use of or derivation of this product.

### References

1. Nakagawa, A et al; Expression and function of class B scavenger receptor type I on both apical and basolateral sides of the plasma membrane of polarized testicular Sertoli cells of the rat. Develop Growth Differ 2004, 46: 283

### Also Available

- HM3019 Monoclonal antibody against Rat CD36, clone UA009
- HM3029 Monoclonal antibody against Rat CD68, Macrosialin, clone ED1
- HM3025 Monoclonal antibody against Rat CD163, clone ED2
- HM3014 Monoclonal antibody against Rat Caveolin-1, clone 7C8
- HM1051 Monoclonal antibody against Mouse MPO (cross reactive with rat), clone 8F4

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