

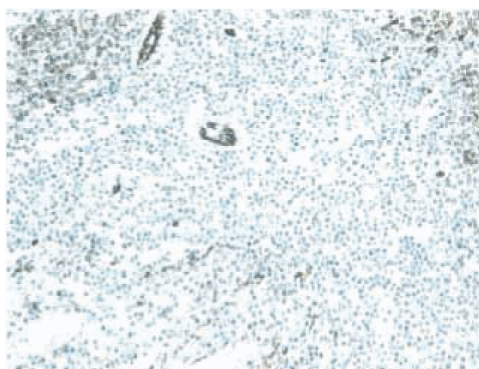
## Technical Data Sheet

**Purified Mouse Anti-Rat CD31****Product Information**

<b>Material Number:</b>	<b>550300</b>
<b>Alternate Name:</b>	PECAM-1
<b>Size:</b>	1.0 ml
<b>Concentration:</b>	15.625 µg/ml
<b>Clone:</b>	TLD-3A12
<b>Immunogen:</b>	Lewis Rat Microglia
<b>Isotype:</b>	Mouse (BALB/c) IgG1, κ
<b>Reactivity:</b>	QC Testing: Rat Tested in Development: Pig
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, goat serum, and ≤0.09% sodium azide.

**Description**

The TLD-3A12 antibody reacts with CD31, also known as PECAM-1 (platelet endothelial cell adhesion molecule). CD31 is a ~130 kDa integral membrane glycoprotein, a member of the immunoglobulin super family, that mediates homophilic and heterophilic cell-cell adhesion. CD31 is expressed on endothelial cells, platelets, and subsets of leukocytes. In the human and mouse, multiple alternatively spliced isoforms have been identified, and this alternative splicing may be involved in the regulation of ligand specificity. CD31-mediated endothelial cell-cell interactions are involved in angiogenesis in the mouse and rat. In addition, PECAM-1 has been demonstrated to play an important role in extravasation of leukocytes in vivo, but in vivo treatment with TLD-3A12 mAb had no discernable effect upon the inflammatory infiltrate in experimental allergic encephalomyelitis. The TLD-3A12 mAb partially blocks the proliferation response of antigen-specific CD4<sup>+</sup> T cells to antigen-presenting cells and relevant antigen. This mouse anti-rat CD31 antibody cross-reacts with pig endothelial cells and platelets, as determined by immunohistochemical staining of acetone-fixed frozen sections and immunofluorescent staining with flow cytometric analysis, respectively. A suspension of Lewis rat microglial cells were used as the source of the immunogen.



*Immunohistochemical staining of endothelial cells. The zinc-fixed paraffin-embedded section of normal rat spleen was stained with TLD-3A12 mAb. Note the brown labeling of endothelia.*

**Preparation and Storage**

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

**Application Notes****Application**

Flow cytometry	Routinely Tested
Immunohistochemistry-frozen	Tested During Development
Immunohistochemistry-zinc-fixed	Tested During Development
Immunoprecipitation	Reported
ELISA	Reported
Blocking	Reported
Immunohistochemistry-formalin (antigen retrieval required)	Not Recommended

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**Recommended Assay Procedure:**

**Immunohistochemistry:** The TLD-3A12 antibody is recommended test for immunohistochemical staining of acetone-fixed frozen sections and zinc-fixed paraffin sections. Tissues tested were rat spleen, thymus and gastro-intestinal tract. The antibody stains endothelial cells of the blood vessels. The isotype control recommended for use with this antibody is purified mouse IgG1 (Cat. No. 550878). For optimal indirect immunohistochemical staining, the TLD-3A12 antibody should be titrated (1:10 to 1:50 dilution) and visualized via a three-step staining procedure in combination with biotinylated polyclonal anti-mouse Ig (multiple adsorbed) (Cat. No. 550337) as the secondary antibody and Streptavidin-HRP (Cat. No. 550946) together with the DAB detection system (Cat. No. 550880). More conveniently, the anti-mouse Ig HRP detection kit (Cat. No. 551011) can be used which contains the biotinylated secondary antibody, the antibody diluent, streptavidin-HRP and a DAB substrate for use in the staining procedure.

**Suggested Companion Products**

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
550337	Biotin Goat Anti-Mouse Ig (Multiple Adsorption)	1.0 ml	Polyclonal
550946	Streptavidin HRP	50 ml	(none)
550880	DAB Substrate Kit	500 tests	(none)
550878	Purified Mouse IgG1 $\kappa$ Isotype Control	1.0 ml	MOPC-31C
559148	Antibody Diluent for IHC	125 ml	(none)
551011	Anti-Mouse Ig HRP Detection Kit	200 tests	(none)

**Product Notices**

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. This antibody has been developed for the immunohistochemistry application. However, a routine immunohistochemistry test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance.
6. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.

**References**

DeLisser HM, Christofidou-Solomidou M, Strieter RM, et al. Involvement of endothelial PECAM-1/CD31 in angiogenesis. *Am J Pathol.* 1997; 151(3):671-677. (Biology)

DeLisser HM, Newman PJ, Albelda SM. Molecular and functional aspects of PECAM-1/CD31. *Immunol Today.* 1994; 15(10):490-495. (Biology)

Wakelin MW, Sanz MJ, Dewar A, et al. An anti-platelet-endothelial cell adhesion molecule-1 antibody inhibits leukocyte extravasation from mesenteric microvessels in vivo by blocking the passage through the basement membrane. *J Exp Med.* 1996; 184(1):229-239. (Biology)

Williams KC, Zhao RW, Ueno K, Hickey WF. PECAM-1 (CD31) expression in the central nervous system and its role in experimental allergic encephalomyelitis in the rat. *J Neurosci Res.* 1996; 45(6):747-757. (Immunogen: Blocking, Immunohistochemistry, Immunoprecipitation, Inhibition)

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