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# BM4018S Monoclonal Antibody to Fibroblasts (Pan Reticular) - Purified

**Alternate names:** Fibroblast Marker, Fibroblasten

**Quantity:** 0.1 mg

**Concentration:** 0.1 mg/ml

**Background:** Fibroblasts are the least specialized cells in the connective-tissue family. They are dispersed in connective tissue throughout the body, where they secrete a nonrigid extracellular matrix (ECM) that is rich in type I and/or type III collagen. Conective tissue consists of glycosaminoglycans, proteoglycans and glycoproteins through which various fibres run. These fibres can be collagenous, elastic or reticular. Reticular fibres are composed from the family of collagen proteins and give tensile strength. These fibres are made by reticular fibroblasts. The activation of fibroblasts by inflammatory stimuli results in their migration, proliferation and deposition of extracellular matrix components, important features involved in both wound healing and fibrosis.

**Host / Isotype:** Rat / IgG2a

**Recommended Isotype Controls:** SM15P, SM15PX

**Clone:** ER-TR7

**Immunogen:** Mouse thymic stromal cells.

**Format:**
**State:** Liquid 0.2 µm filtered Ig fraction
**Purification:** Affinity Chromatography on Protein G
**Buffer System:** PBS
**Preservatives:** 0.02% Sodium Azide
**Stabilizers:** 0.1% BSA

**Applications:**
**Immunohistochemistry on Frozen Sections** (Ref.1,2): Sections were stained using an lindirect immunoperoxidase method (Ref.1).
**Immunohistochemistry on Paraffin Sections**: Formalin fixed paraffin sections were deparafined, hydrated in ethanol and stained with *ER-TR7* for 30'at RT (Ref.3).
**Flow Cytometry**: Splenocytes were incubated with *ER-TR7* for 30' (Ref.4).
**Immunofluorescence** (Ref.4-6): Acetone or PFA fixed cells were quenched with 50mM $NH_4Cl$ for 30', blocked and permeabilized with 1.5% Goat serum/0.1% saponin in PBS for 45' ate RT. Incubation of *ER-TR-7* in block&perm solution for 45' at RT. Specific staining was detected with a fluorescent conjugated Goat anti-Rat-IgG (Ref.5).
***Positive Control:*** Spleen.
***Negative Control:*** Lymphoid cells.
***Typical Starting Working Dilutions:*** 1/50 for Immunohistochemistry and Flow Cytometry.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**Specificity:**

This Monoclonal antibody *ER-TR7* recognizes with an intracellular component of Mouse Fibroblasts.
The *ER-TR7* antigen is a ubiquitous component of stromal (interstitial) matrix cartilage and of at least some basement membrane zones. The antigen detected is not a basement membrane component, nor any major collagen type or fibronectin. The antigen detected has a wider tissue distribution than reticulin. ER-TR7 detects an intracellular component of fibroblasts. Since ER-TR7 does not react with purified laminin, collagen types I-V, fibronectin, heparin sulfate proteoglycan, entactin or nidogen, it detects a hitherto uncharacterized antigen.
The Monoclonal antibody *ER-TR7* can be used to study the micro-anatomy of various organs. *ER-TR7* outlines the various compartments of peripheral lymphoid organs by characteristic labeling patterns (no such compartments are found in central lymphoid organs). Furthermore *ER-TR7* delineates various types of connective tissue compartments in nonlymphoid organs.
The antibody *ER-TR7* detects reticular fibroblasts, which constitute the cellular framework of lymphoid and nonlymphoid organs and their products. *ER-TR7* is useful to clearly delineated the follicles, periarteriolar lymphoid sheath and marginal zone; the major white pulp compartments. Furthermore in lymph nodes, the capsule, sinuses, follicles, paracortex and medullary cords are clearly delineated.

**Species Reactivity:**

**Tested:** Human, Mouse.

**Storage:**

Store undiluted at 2-8°C.
Shelf life: one year from despatch.

**General Readings:**

1. Van Vliet E, Melis M, Van Ewijk W. Monoclonal antibodies to stromal cell types of the mouse thymus. Eur J Immunol. 1984 Jun;14(6):524-9. PubMed PMID: 6734714.
2. Van Vliet E, Melis M, Foidart JM, Van Ewijk W. Reticular fibroblasts in peripheral lymphoid organs identified by a monoclonal antibody. J Histochem Cytochem. 1986 Jul;34(7):883-90. PubMed PMID: 3519751.
3. Kalled, S et al; Anti-CD40 ligand antibody treatment of SNF 1 mice with established nephritits: preservation of kidney function. J Immunol 1998, 120: 2158.
4. Nolte MA, Beliën JA, Schadee-Eestermans I, Jansen W, Unger WW, van Rooijen N, et al. A conduit system distributes chemokines and small blood-borne molecules through the splenic white pulp. J Exp Med. 2003 Aug 4;198(3):505-12. PubMed PMID: 12900524.
5. Svensson M, Maroof A, Ato M, Kaye PM. Stromal cells direct local differentiation of regulatory dendritic cells. Immunity. 2004 Dec;21(6):805-16. PubMed PMID: 15589169.
6. Alba R, Bradshaw AC, Coughlan L, Denby L, McDonald RA, Waddington SN, et al. Biodistribution and retargeting of FX-binding ablated adenovirus serotype 5 vectors. Blood. 2010 Oct 14;116(15):2656-64. doi: 10.1182/blood-2009-12-260026. Epub 2010 Jul 7. PubMed PMID: 20610817.

**Pictures:**

Staining of Mouse C57BL/6 Spleen Section with Antibody Cat.-No BM4018S Clone ER-TR7 at 5 µg/ml.