Technical Data Sheet

Purified Mouse Anti-Thrombin Receptor/PAR1

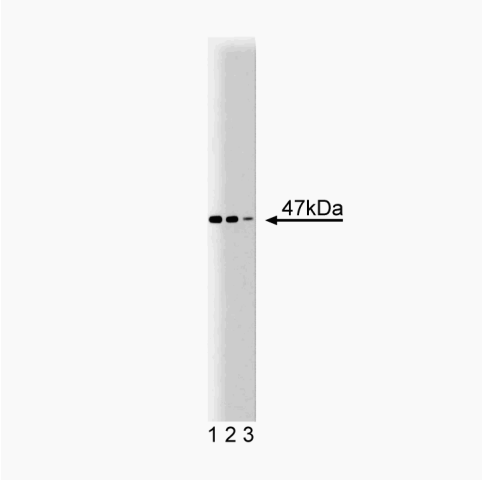
Product Information

Material Number:	**611522**
Alternate Name:	Protease Activated Receptor-1 (PAR1)
Size:	50 µg
Concentration:	250 µg/ml
Clone:	14/Thrombin Receptor
Immunogen:	Human Thrombin Receptor/PAR1 aa. 33-153
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse
Target MW:	47 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Thrombin is a serine protease that regulates the activity of many cell types including the activation of platelets after vascular injury. Thrombin functions are mediated by G-protein-coupled protease-activated receptors that are homologous to substance P and thyrotropin receptors. Thrombin receptors (PAR1, PAR3, and PAR4) are seven transmembrane domain proteins with large N-terminal exodomains that contain a thrombin cleavage site (LDPR/S). Thrombin binds to the exodomain and cleaves the peptide bond between Arg-41 and Ser-42. This unmasks a new N-terminus with the sequence SFLLRN that acts as a tethered ligand. SFLLRN binds to the body of the thrombin receptor leading to irreversable activation. Both phosphorylation of the thrombin receptor and internalization may uncouple downstream signaling. PAR1 protein is expressed in vascular endothelial cells, smooth muscle cells, and macrophages, while PAR1 mRNA is expressed at higher levels in neonatal rat brain and lower levels in skeletal muscle, liver, and kidney. Thus, G-protein signaling via thrombin receptors, like PAR1, may be important for a diverse array of cellular functions, such as platelet activation and neural development.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of Thrombin Receptor/PAR1 on a K-562 cell lysate (Human bone marrow myelogenous leukemia; ATCC CCL-243). *Lane 1: 1:250, lane 2: 1; 500, lane 3: 1: 1000 dilution of the mouse anti- Thrombin Receptor/PAR1 antibody.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

BD Biosciences
bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit bdbiosciences.com/how_to_order/

BD Biosciences

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611550	K-562 Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.

References

Coughlin SR. How the protease thrombin talks to cells. *Proc Natl Acad Sci U S A.* 1999; 96(20):11023-11027.(Biology)

Nelken NA, Soifer SJ, O'Keefe J, Vu TK, Charo IF, Coughlin SR. Thrombin receptor expression in normal and atherosclerotic human arteries. *Cell.* 1992; 90(4):1614-1621.(Biology)

Niclou S, Suidan HS, Brown-Luedi M, Monard D. Expression of the thrombin receptor mRNA in rat brain. *Cell Mol Biol (Noisy-le-grand).* 1994; 40(3):421-428. (Biology)

Vu TK, Hung DT, Wheaton 'VI, Coughlin SR. Molecular cloning of a functional thrombin receptor reveals a novel proteolytic mechanism of receptor activation. *J Clin Invest.* 1991; 64(6):1057-1068.(Biology)