

Product datasheet for **TA329006**

F2r11 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IF, WB
Recommended Dilution:	WB: 1:200-1:2000; FC: 1:50-1:600
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)KRMQISLTSNKFSRK, corresponding to amino acid residues 368-382 of rat PAR-2. Intracellular, C- terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.025% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	F2R like trypsin receptor 1
Database Link:	NP_446349 Entrez Gene 2150 Human Entrez Gene 14063 Mouse Entrez Gene 116677 Rat Q63645



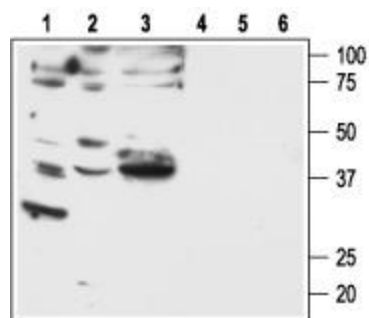
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Background:

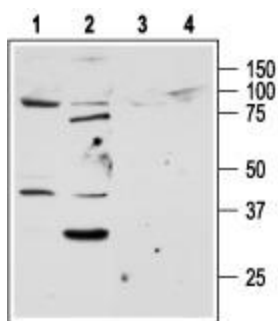
Protease-activated receptor 2 (PAR-2) belongs to a family of four G protein-coupled receptors (PAR-1 - 4) that are activated as a result of proteolytic cleavage by certain serine proteases, hence their name. In this novel modality of activation, a specific protease cleaves the PAR receptor within a defined sequence in its extracellular N-terminal domain. This results in the creation of a new N-terminal tethered ligand, which subsequently binds to a site in the second extracellular loop of the same receptor. This binding results in the coupling of the receptor to G proteins and in the activation of several signal transduction pathways. Different PARs are activated by different proteases. Hence, PAR-1 is activated by thrombin, as are PAR-3 and PAR-4. PAR-2 is the only PAR family receptor that is activated by trypsin and not by thrombin. PAR-2 can be also cleaved and activated by other proteases such as tryptase, membrane-type serine protease 1, protease 3, and others. The intramolecular nature of PAR activation and the continuous presence of the tethered ligand that cannot diffuse away imply the existence of several mechanisms for the rapid termination of PAR signaling. Indeed, following receptor activation, there is rapid phosphorylation of the C-terminal end of the receptor, followed by receptor internalization and degradation. In addition, several proteases can cleave away the tethered ligand, thereby “disarming” the PAR. PAR-2-mediated intracellular signaling has not been clearly elucidated, but activators of PAR-2 induce generation of IP3 and mobilization of intracellular Ca²⁺. Activation of the ERK1/2 and NF-κB intracellular pathways following PAR-2 activation has been also described. Tissue distribution of PAR-2 is wide with the highest expression levels found in pancreas, small intestine, liver and kidney. In addition, PAR-2 expression was observed in dorsal root ganglion neurons, smooth muscle cells and endothelial cells. The physiological role of PAR-2 is not clearly understood, however studies using PAR-2 knockout mice have suggested roles in the cardiovascular, pulmonary and gastrointestinal systems. Several studies suggest that PAR-2 plays a central role in inflammatory diseases and nociceptive pain transduction; hence PAR-2 blockers have been proposed to be useful in the therapeutic control of inflammation and pain.

Synonyms:

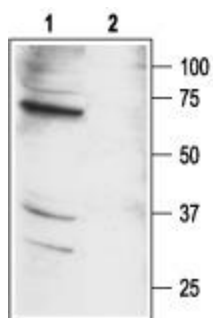
GPR11; PAR-2; PAR2

Product images:

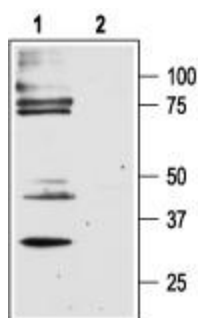
Western blot analysis of human breast adenocarcinoma MDA-MB-231 (lanes 1 and 4) and MDA-MB-468 (lanes 2 and 5), and human lung small cell carcinoma NCI-H526 (lanes 3 and 6) cell lines: 1-3. Anti-Protease-Activated Receptor-2 antibody, (1:600). 4-6. Anti-Protease-Activated Receptor-2 antibody, preincubated with the control peptide antigen.



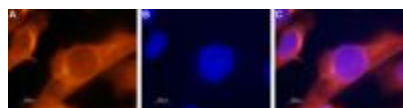
Western blot analysis of rat lung (lanes 1 and 3) and liver (lanes 2 and 4) lysates: 1, 2. Anti-Protease-Activated Receptor-2 antibody, (1:400). 3, 4. Anti-Protease-Activated Receptor-2 antibody, preincubated with the control peptide antigen.



Western blot analysis of mouse kidney lysates: 1. Anti-Protease-Activated Receptor-2 antibody, (1:400). 2. Anti-Protease-Activated Receptor-2 antibody, preincubated with the control peptide antigen.



Western blot analysis of rat dorsal root ganglion lysates: 1. Anti-Protease-Activated Receptor-2 antibody, (1:200). 2. Anti-Protease-Activated Receptor-2, preincubated with the control peptide antigen.



Expression of PAR-2 in human prostate carcinoma cell line. Immunocytochemical staining of paraformaldehyde-fixed and permeabilized human PC-3 cells. A. Cells were stained with Anti-Protease-Activated Receptor-2 antibody, (1:500), followed by goat-anti-rabbit-AlexaFluor-555 secondary antibody (orange). B. Nuclei were visualized with the cell-permeable dye Hoechst 33342 (blue). C. Merge of A and B.