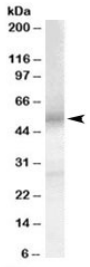
EP4 Antibody / Prostaglandin E Receptor 4 / PTGER4 (R34715)

Catalog No.	Formulation	Size
R34715-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Dog
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	5734
Applications	Western blot: 0.1-0.3ug/ml ELISA (peptide) LOD: 1:16000
Limitations	This EP4 antibody is available for research use only.



Western blot testing of human testis lysate with EP4 antibody at 0.1ug/ml. Predicted molecular weight: ~53 kDa.

Description

EP4 antibody targets Prostaglandin E receptor 4, encoded by the PTGER4 gene. Prostaglandin E receptor 4 is a G protein-coupled receptor that belongs to the prostanoid receptor family and specifically binds prostaglandin E2 (PGE2). EP4 is a transmembrane signaling receptor that primarily couples to stimulatory G proteins, leading to activation of adenylate cyclase and increased intracellular cyclic AMP levels. The receptor is localized at the plasma membrane and functions as a key mediator of PGE2-driven signaling in diverse physiological contexts.

Functionally, Prostaglandin E receptor 4 plays an important role in regulating inflammatory responses, vascular tone, immune modulation, and cell survival. Activation of EP4 signaling influences gene expression, cytokine production, and cellular proliferation through downstream cAMP-dependent pathways. Compared with other PGE2 receptors, EP4 signaling is often associated with anti-inflammatory and cytoprotective effects, although its role can vary depending on cell type and microenvironment. An EP4 antibody supports studies focused on prostaglandin signaling and GPCR-mediated signal transduction.

PTGER4 is expressed in a wide range of tissues, including immune cells, vascular endothelium, gastrointestinal epithelium, and the nervous system. In immune cells, EP4 contributes to regulation of T cell differentiation, macrophage activation, and immune tolerance. In epithelial and endothelial tissues, EP4 signaling participates in barrier function, tissue repair, and regulation of inflammatory signaling. Expression levels can be dynamically regulated by inflammatory stimuli and cellular activation state, reflecting the receptorÃ¢Â€Â™s role in adaptive physiological responses.

From a disease-relevance perspective, altered EP4 signaling has been implicated in inflammatory disorders, cardiovascular disease, and cancer. Dysregulation of PGE2-EP4 pathways has been studied in conditions such as inflammatory bowel disease, arthritis, and tumor-associated inflammation, where prostaglandin signaling influences immune suppression, angiogenesis, and cell survival. EP4 has also emerged as a therapeutic target in immuno-oncology and inflammatory disease research, highlighting its importance in disease-associated signaling networks.

At the molecular level, Prostaglandin E receptor 4 contains seven transmembrane domains characteristic of GPCRs and undergoes ligand-dependent conformational changes that initiate intracellular signaling cascades. Post-translational modifications and receptor trafficking can influence signaling output and electrophoretic behavior on SDS-PAGE without implying changes in primary sequence. An EP4 antibody supports research applications focused on prostaglandin signaling, inflammation biology, and disease-associated GPCR regulation, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the EP4 antibody should be determined by the researcher.

Immunogen

Amino acids LEREVSKNPDLQA were used as the immunogen for this EP4 antibody.

Storage

Aliquot and store the EP4 antibody at -20oC.

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