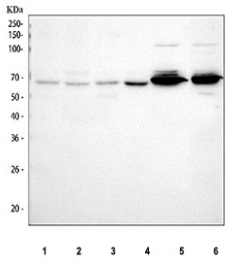
PTGER4 Antibody / EP4 / Prostaglandin E Receptor 4 (R32713)

Catalog No.	Formulation	Size
R32713	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P35408
Applications	Western Blot : 0.5-1ug/ml
Limitations	This PTGER4 antibody is available for research use only.



Western blot analysis using PTGER4 antibody. Lane 1: human HL-60 whole cell lysates; Lane 2: human RT4 whole cell lysates; Lane 3: human THP-1 whole cell lysates; Lane 4: human Jurkat whole cell lysates; Lane 5: rat brain tissue lysates; Lane 6: mouse brain tissue lysates. The predicted molecular weight of Prostaglandin E2 receptor EP4 is ~53 kDa. A predominant band is observed at ~65 kDa, consistent with the commonly observed glycosylated form of this transmembrane GPCR on SDS-PAGE.

Description

PTGER4 antibody targets Prostaglandin E2 receptor EP4, encoded by the PTGER4 gene. Prostaglandin E2 receptor EP4 is a G protein-coupled receptor belonging to the prostanoid receptor family and serves as a high-affinity receptor for prostaglandin E2 (PGE2). EP4 is a multi-pass transmembrane protein that localizes primarily to the plasma membrane, where it mediates PGE2-dependent signaling events that regulate cellular responses to inflammatory and physiological stimuli. Through coupling to stimulatory G proteins, EP4 activates adenylate cyclase and downstream cyclic AMP signaling pathways.

Functionally, Prostaglandin E2 receptor EP4 plays a central role in modulating inflammation, immune responses, vascular

function, and cell survival. Activation of EP4 signaling can influence transcriptional programs involved in cytokine production, cell proliferation, and tissue repair. In many contexts, EP4 signaling is associated with anti-inflammatory and protective effects, although its impact is highly dependent on cell type and signaling environment. A PTGER4 antibody supports studies focused on prostaglandin-mediated signal transduction and GPCR biology.

PTGER4 expression is observed in a broad range of tissues, including immune cells, gastrointestinal epithelium, vascular endothelium, and cells of the nervous system. In immune cells, EP4 contributes to regulation of T cell differentiation, macrophage activity, and immune tolerance. In epithelial and endothelial tissues, EP4 signaling participates in maintaining barrier integrity, regulating vascular permeability, and promoting tissue homeostasis. Expression levels can be dynamically regulated in response to inflammatory cues and cellular activation, reflecting the adaptive role of EP4 in physiological regulation.

From a disease-relevance perspective, altered PTGER4 signaling has been implicated in inflammatory diseases, cardiovascular disorders, and cancer. Dysregulated PGE2-EP4 signaling has been studied in inflammatory bowel disease, arthritis, and tumor-associated inflammation, where EP4 can influence immune suppression, angiogenesis, and cell survival. Because of these roles, Prostaglandin E2 receptor EP4 has emerged as a molecule of interest in therapeutic research targeting inflammatory and immune-mediated pathologies.

At the molecular level, Prostaglandin E2 receptor EP4 contains seven transmembrane domains characteristic of GPCRs and undergoes ligand-induced conformational changes that initiate intracellular signaling cascades. Post-translational modifications, receptor internalization, and recycling can modulate EP4 signaling strength and duration, as well as its apparent behavior on SDS-PAGE, without implying changes in primary sequence. A PTGER4 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 PTGER4 antibody should be determined by the researcher.

Immunogen

Amino acids 311-345 (DLQAIRIASVNPILDPWIYILLRKTVLSKAIEKIK) from the human protein were used as the immunogen for the PTGER4 antibody.

Storage

After reconstitution, the PTGER4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.