

EP2 (H-75): sc-20675

BACKGROUND

Prostaglandin E_2 , a member of the autacoid family of lipid mediators, is a major renal cyclooxygenase product of arachidonic acid metabolism. Prostaglandin E_2 binds to four G protein-coupled E-prostanoid receptors, designated EP1, EP2, EP3 and EP4. The expression and function of the prostaglandin E_2 receptors have been highly characterized in kidney. EP1, which is predominantly expressed in the collecting duct, couples to G_q proteins to inhibit sodium absorption and increase in intracellular calcium, which act as second messengers. EP2 is coupled to G_s proteins, which stimulate adenylyl cyclase. EP2 has the lowest expression in kidney, but EP2 knockout mice exhibit salt-sensitive hypertension, which suggests a role for EP2 in salt excretion. EP3 is expressed in renal vessels, thick ascending limb and collecting duct. EP3 has at least six alternative splice variants that couple to G_i proteins to inhibit cAMP, which subsequently inhibit sodium and water transport. In uterus, EP3 induces the contraction of uterine smooth muscles. EP4 is expressed in glomerulus and collecting duct. It couples to G_s proteins, which stimulate adenylyl cyclase and regulate glomerular tone and renal renin release.

CHROMOSOMAL LOCATION

Genetic locus: PTGER2 (human) mapping to 14q22; Ptger2 (mouse) mapping to 14 C1.

SOURCE

EP2 (H-75) is a rabbit polyclonal antibody raised against amino acids 1-75 mapping at the N-terminus of EP2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-20675 AC, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

EP2 (H-75) is recommended for detection of EP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

EP2 (H-75) is also recommended for detection of EP2 in additional species, including equine.

Suitable for use as control antibody for EP2 siRNA (h): sc-40171, EP2 siRNA (m): sc-40172, EP2 siRNA (r): sc-45910, EP2 shRNA Plasmid (h): sc-40171-SH, EP2 shRNA Plasmid (m): sc-40172-SH, EP2 shRNA Plasmid (r): sc-45910-SH, EP2 shRNA (h) Lentiviral Particles: sc-40171-V, EP2 shRNA (m) Lentiviral Particles: sc-40172-V and EP2 shRNA (r) Lentiviral Particles: sc-45910-V.

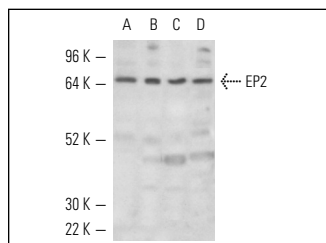
Molecular Weight of EP2: 68 kDa.

Positive Controls: JAR cell lysate: sc-2276, JEG-3 whole cell lysate or WI 38 cell lysate.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



EP2 (H-75): sc-20675. Western blot analysis of EP2 expression in JAR (A), JEG-3 (B), WI 38 (C) and NRK (D) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Muller-Decker, K., et al. 2002. Transgenic cyclooxygenase-2 overexpression sensitizes mouse skin for carcinogenesis. *Proc. Natl. Acad. Sci. USA* 99: 12483-12488.
2. Muller-Decker, K., et al. 2003. Expression of cyclooxygenase isozymes during morphogenesis and cycling of pelage hair follicles in mouse skin: precocious onset of the first catagen phase and alopecia upon cyclooxygenase-2 overexpression. *J. Invest. Dermatol.* 121: 661-668.
3. Muller-Decker, K., et al. 2005. Cystic duct dilatations and proliferative epithelial lesions in mouse mammary glands upon keratin 5 promoter-driven overexpression of cyclooxygenase-2. *Am. J. Pathology* 166: 575-584.
4. Bachar, O., et al. 2005. $TNF\alpha$ reduces tachykinin, PGE_2 -dependent, relaxation of the cultured mouse trachea by increasing the activity of Cox-2. *Br. J. Pharmacol.* 144: 220-230.
5. Liu, X., et al. 2010. Fibroblast-specific expression of AC6 enhances β -adrenergic and prostacyclin signaling and blunts bleomycin-induced pulmonary fibrosis. *Am. J. Physiol. Lung Cell Mol. Physiol.* 298: L819-L829.
6. Bogard, A.S., et al. 2011. Human bronchial smooth muscle cells express adenylyl cyclase isoforms 2, 4, and 6 in distinct membrane microdomains. *J. Pharmacol. Exp. Ther.* 337: 209-217.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.