EP3 (5F5): sc-57105

**BACKGROUND**

Prostaglandin E2, a member of the autacoid family of lipid mediators, is a major renal cyclooxygenase product of arachidonic acid metabolism. Prostaglandin E2 binds to four G protein-coupled E-prostanoid receptors, designated EP1, EP2, EP3 and EP4. The function and expression of the prostaglandin E2 receptors have been highly characterized in kidney. EP1, which is predominantly expressed in the collecting duct, couples to $G_{i/o}$ proteins to inhibit sodium absorption and increase in intracellular calcium, which act as second messengers. EP2 is coupled to $G_{i/o}$ 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, which is expressed in renal vessels, thick ascending limb and collecting duct, has at least six alternative splice variants that couple to $G_{i/o}$ 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 $G_{i/o}$ proteins, which stimulate adenylyl cyclase and regulate glomerular tone and renal renin release.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: PTGER3 (human) mapping to 1p31.1; Ptger3 (mouse) mapping to 3 H4.

**SOURCE**

EP3 (5F5) is a mouse monoclonal antibody raised against recombinant EP3 of human origin.

**PRODUCT**

Each vial contains 50 µg IgG2a kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**APPLICATIONS**

EP3 (5F5) is recommended for detection of EP3 of mouse, rat, human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:1000-1:10000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].


Positive Controls: rat kidney extract: sc-2394, HeLa whole cell lysate: sc-2200 or JAR cell lysate: sc-2276.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG® BP-HRP: sc-516102 or m-IgG® BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker® Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**DATA**

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

**SELECT PRODUCT CITATIONS**


**STORAGE**

See our website at www.scbt.com for detailed protocols and support products.

**REFERENCES**