



## PGF2 $\alpha$ R (K-14): sc-33364

### BACKGROUND

Prostaglandin receptors are integral membrane proteins that bind prostaglandins with high affinity. This triggers changes in the cell which influence cell behavior. Prostaglandin receptor subtypes are named according to their relative affinities for the endogenous prostaglandins. These include prostaglandin D2 (DP receptors), prostaglandin E2 (EP1, EP2 and EP3 receptors), prostaglandin F2  $\alpha$  (FP receptors) and prostacyclin (IP receptors). Prostaglandin F2  $\alpha$  receptor (PGF2 $\alpha$ R), also designated prostanoid FP receptor is an integral membrane protein. It acts as a receptor for prostaglandin F2  $\alpha$ . The activity of PGF2 $\alpha$ R is mediated by G proteins that activate phosphatidylinositol-calcium second messenger system. In the corpus luteum, PGF2 $\alpha$ R is involved in luteolysis initiation.

### REFERENCES

1. Abramovitz, M., et al. 1994. Cloning and expression of a cDNA for the human prostanoid FP receptor. *J. Biol. Chem.* 269: 2632-2636.
2. Bishop, C.V., et al. 2005. Nongenomic action of progesterone inhibits oxytocin-induced phosphoinositide hydrolysis and prostaglandin F2  $\alpha$  secretion in the ovine endometrium. *Endocrinology*. Epub ahead of print.
3. Sales, K.J., et al. 2005. A novel angiogenic role for prostaglandin F2  $\alpha$ -FP receptor interaction in human endometrial adenocarcinomas. *Cancer Res.* 65: 7707-7716.
4. Yamaji, K., et al. 2005. Prostaglandins E1 and E2, but not F2  $\alpha$  or latanoprost, inhibit monkey ciliary muscle contraction. *Curr. Eye Res.* 30: 661-665.
5. Camargo, P.M., et al. 2005. Prostaglandins E2 and F2  $\alpha$  enhance differentiation of cementoblastic cells. *J. Periodontol.* 76: 303-309.
6. Duras, M., et al. 2005. Non-genomic effect of steroids on oxytocin-stimulated intracellular mobilization of calcium and on prostaglandin F2  $\alpha$  and E2 secretion from bovine endometrial cells. *Prostaglandins Other Lipid Mediat.* 76: 105-116.
7. SiWISS-PROT/TrEMBL (P43088). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

### CHROMOSOMAL LOCATION

Genetic locus: PTGFR (human) mapping to 1p31.1; Ptgfr (mouse) mapping to 3 H3.

### SOURCE

PGF2 $\alpha$ R (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of PGF2 $\alpha$ R of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-33364 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PGF2 $\alpha$ R (K-14) is recommended for detection of PGF2 $\alpha$ R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for PGF2 $\alpha$ R siRNA (h): sc-44987, PGF2 $\alpha$ R siRNA (m): sc-44988, PGF2 $\alpha$ R shRNA Plasmid (h): sc-44987-SH, PGF2 $\alpha$ R shRNA Plasmid (m): sc-44988-SH, PGF2 $\alpha$ R shRNA (h) Lentiviral Particles: sc-44987-V and PGF2 $\alpha$ R shRNA (m) Lentiviral Particles: sc-44988-V.

Positive Controls: HeLa whole cell lysate: sc-2200.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Bogan, R.L., et al. 2008. Prostaglandin synthesis, metabolism, and signaling potential in the rhesus macaque corpus luteum throughout the luteal phase of the menstrual cycle. *Endocrinology* 149: 5861-5871.
2. Miyamoto, N., et al. 2009. Nipradilol and timolol induce FOXO3a and Peroxiredoxin 2 expression and protect trabecular meshwork cells from oxidative stress. *Invest. Ophthalmol. Vis. Sci.* 50: 2777-2784.

### STORAGE

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

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.