

# PGF2 $\alpha$ R (T-15): sc-46449

## 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* 147: 937-942.
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.

## CHROMOSOMAL LOCATION

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

## SOURCE

PGF2 $\alpha$ R (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular 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-46449 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PGF2 $\alpha$ R (T-15) is recommended for detection of PGF2 $\alpha$ R of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

PGF2 $\alpha$ R (T-15) is also recommended for detection of PGF2 $\alpha$ R in additional species, including equine and canine.

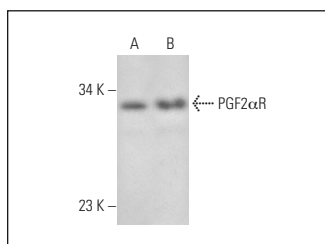
Suitable for use as control antibody for PGF2 $\alpha$ R siRNA (h): sc-44987, PGF2 $\alpha$ R siRNA (m): sc-44988, PGF2 $\alpha$ R shRNA Plasmid (h): sc-44987-SH, PGF2 $\alpha$ R shRNA Plasmid (m): sc-44988-SH, PGF2 $\alpha$ R shRNA (h) Lentiviral Particles: sc-44987-V and PGF2 $\alpha$ R shRNA (m) Lentiviral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

Positive Controls: HeLa whole cell lysate: sc-2200, HT-1080 whole cell lysate: sc-364183 or NIH/3T3 whole cell lysate: sc-2210.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



PGF2 $\alpha$ R (T-15): sc-46449. Western blot analysis of PGF2 $\alpha$ R expression in HT-1080 (A) and NIH/3T3 (B) whole cell lysates.

## 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.