

# IGFBP3R (N-11): sc-244404

## BACKGROUND

The Insulin-like growth factor-binding proteins (IGFBPs), a family of homologous proteins that have co-evolved with the IGFs, serve not only as shuttle molecules for the soluble IGFs, but also confer a level of regulation to the IGF signaling system. Physical association of the IGFBPs with IGF influences the bio-availability of the growth factors, and their concentration and distribution in the extracellular environment. The IGFBPs also appear to have biological activity independent of the IGFs. IGFBP3, the most abundant IGFBP, is complexed with roughly 80% of the serum IGFs. Both IGFBP3 and IGFBP4 are released by dermal fibroblasts in response to incision injury. IGFBP3R (insulin-like growth factor-binding protein 3 receptor), also known as TMEM219, is a 240 amino acid single-pass membrane cell death receptor specific for IGFBP3. Widely expressed in normal tissues but suppressed in prostate and breast tumor, IGFBP3R may mediate caspase-8-dependent apoptosis upon ligand binding. The IGFBP3/IGFBP3R system is suggested to play a pivotal role in the pathogenesis of asthma and may potentially serve as a therapeutic target for this disease.

## REFERENCES

- Schmid, C. 1995. Insulin-like growth factors. *Cell Biol. Int.* 19: 445-457.
- Binoux, M. 1995. The IGF system in metabolism regulation. *Diabetes Metabol.* 21: 330-337.
- Baxter, R.C. 1995. Insulin-like growth factor binding proteins as gluco-regulators. *Metab. Clin. Exp.* 44: 12-17.
- Kelley, K.M., et al. 1996. Insulin-like growth factor-binding proteins (IGFBPs) and their regulatory dynamics. *Int. J. Biochem. Cell Biol.* 28: 619-637.
- Ingermann, A.R., et al. 2010. Identification of a novel cell death receptor mediating IGFBP-3-induced anti-tumor effects in breast and prostate cancer. *J. Biol. Chem.* 285: 30233-30246.
- Lee, Y.C., et al. 2011. Insulin-like growth factor-binding protein-3 (IGFBP-3) blocks the effects of asthma by negatively regulating NF $\kappa$ B signaling through IGFBP-3R-mediated activation of caspases. *J. Biol. Chem.* 286: 17898-17909.

## CHROMOSOMAL LOCATION

Genetic locus: TMEM219 (human) mapping to 16p11.2; Tmem219 (mouse) mapping to 7 F3.

## SOURCE

IGFBP3R (N-11) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IGFBP3R 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-244404 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

IGFBP3R (N-11) is recommended for detection of IGFBP3R of mouse, rat and human 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).

IGFBP3R (N-11) is also recommended for detection of IGFBP3R in additional species, including equine and canine.

Suitable for use as control antibody for IGFBP3R siRNA (h): sc-93360, IGFBP3R siRNA (m): sc-154448, IGFBP3R shRNA Plasmid (h): sc-93360-SH, IGFBP3R shRNA Plasmid (m): sc-154448-SH, IGFBP3R shRNA (h) Lentiviral Particles: sc-93360-V and IGFBP3R shRNA (m) Lentiviral Particles: sc-154448-V.

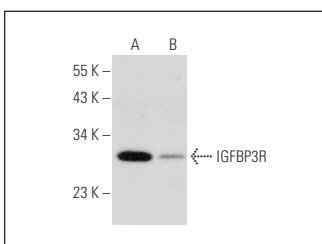
Molecular Weight of IGFBP3R: 32 kDa.

Positive Controls: mouse skeletal muscle extract: sc-364250 or rat skeletal muscle extract: sc-364810.

## 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



IGFBP3R (N-11): sc-244404. Western blot analysis of IGFBP3R expression in mouse skeletal muscle (A) and rat skeletal muscle (B) tissue extracts.

## 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.