

# CRB3 (K-20): sc-27903

## BACKGROUND

The transmembrane protein Crumbs plays a crucial role in epithelial cell polarity and photoreceptor development in *Drosophila melanogaster* embryos, but the first identified human homologue, CRB1, is only expressed in retina and some parts of the brain, leaving room for another homologue to function in epithelial tissues. Leber congenital amaurosis or progressive retinitis pigmentosa are caused by loss of CRB1 function. A second homologue, CRB3, fills the gap, showing expression in epithelial tissues as well as skeletal muscles. CRB3 shares a cytoplasmic domain with other Crumbs proteins, but contains only a very short extracellular domain, through which it interacts with Par6, a regulator of epithelial polarity and tight junction formation. Thus, this specialized isoform provides a connection between apical membrane formation and tight junction regulation.

## REFERENCES

1. Roh, M.H., et al. 2002. The Maguk protein, Pals1, functions as an adapter, linking mammalian homologues of Crumbs and Discs Lost. *J. Cell Biol.* 157: 161-172.
2. Makarova, O., et al. 2003. Mammalian Crumbs3 is a small transmembrane protein linked to protein associated with Lin-7 (Pals1). *Gene* 302: 21-29.
3. van de Pavert, S.A., et al. 2004. Crumbs homologue 1 is required for maintenance of photoreceptor cell polarization and adhesion during light exposure. *J. Cell Sci.* 117: 4169-4177.
4. Lemmers, C., et al. 2004. CRB3 binds directly to Par6 and regulates the morphogenesis of the tight junctions in mammalian epithelial cells. *Mol. Biol. Cell* 15: 1324-1333.

## CHROMOSOMAL LOCATION

Genetic locus: CRB3 (human) mapping to 19p13.3; Crb3 (mouse) mapping to 17 D.

## SOURCE

CRB3 (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CRB3 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-27903 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

CRB3 (K-20) is recommended for detection of CRB3, isoforms  $\alpha$  and  $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

CRB3 (K-20) is also recommended for detection of CRB3, isoforms  $\alpha$  and  $\beta$  in additional species, including bovine.

Suitable for use as control antibody for CRB3 siRNA (h): sc-43698, CRB3 siRNA (m): sc-142561, CRB3 shRNA Plasmid (h): sc-43698-SH, CRB3 shRNA Plasmid (m): sc-142561-SH, CRB3 shRNA (h) Lentiviral Particles: sc-43698-V and CRB3 shRNA (m) Lentiviral Particles: sc-142561-V.

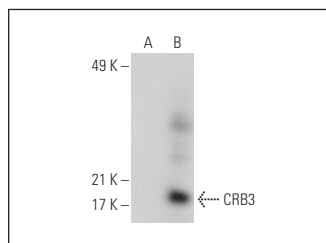
Molecular Weight of CRB3: 20-28 kDa.

Positive Controls: CRB3 (h): 293T Lysate: sc-113019, Caco-2 cell lysate: sc-2262 or mouse kidney extract: sc-2255.

## 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



CRB3 (K-20): sc-27903. Western blot analysis of CRB3 expression in non-transfected: sc-117750 (A) and human CRB3 transfected: sc-113019 (B) whole cell lysates.

## RESEARCH USE

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