

# Basal bodies/ciliated cells (LhS 28): sc-53224

## BACKGROUND

Flagella and cilia are both membrane-bound projections from the cell surface that beat in distinctive patterns. Cilia are shorter and usually more profuse than flagella and contain a microtubule cytoskeleton, the ciliary axoneme, surrounded by a ciliary membrane. Microtubules of cilia arise from centrioles, sites of dense material that localize to the base of the completed structure as a basal body. Nine pairs of microtubules form a ring around two central microtubules, creating an arrangement called a "9 + 2 array." A system of spokes and links holds this arrangement together. In contrast, single non-motile 9 + 0 primary cilia reside on epithelial cells, such as those of the kidney tubule, and also on nonepithelial cells, such as chondrocytes, fibroblasts and neurons. The ciliary membranes of all cilia hold specific receptors and ion channel proteins that initiate signaling pathways that regulate motility and/or link mechanical or chemical stimuli to intracellular transduction cascades regulating differentiation, migration and cell growth during development and in adulthood.

## REFERENCES

- Comer, M.T., et al. 1998. Induction of a differentiated ciliated cell phenotype in primary cultures of Fallopian tube epithelium. *Hum. Reprod.* 13: 3114-3120.
- Comer, M.T., et al. 1999. Expression of an antigen associated with basal bodies of human ciliated epithelial cells. *Histochem. J.* 31: 39-43.
- Comer, M.T., et al. 1999. Application of a marker of ciliated epithelial cells to gynaecological pathology. *J. Clin. Pathol.* 52: 355-357.
- Castillo, K., et al. 2005. Ca<sup>2+</sup>-dependent K<sup>+</sup> channels from lipid bilayers. *FEBS Lett.* 579: 1675-1682.
- Hildebrandt, F. and Otto, E. 2005. Cilia and centrosomes: a unifying pathogenic concept for cystic kidney disease? *Nat. Rev. Genet.* 6: 928-940.
- Kramer-Zucker, A.G., et al. 2005. Cilia-driven fluid flow in the zebrafish pronephros, brain and Kupf is required for normal organogenesis. *Development* 132: 1907-1921.

## SOURCE

Basal bodies/ciliated cells (LhS 28) is a mouse monoclonal antibody raised against a cytoskeletal preparation of BHK a21 human cell line expressing cilia basal bodies.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Basal bodies/ciliated cells (LhS 28) is available conjugated to agarose (sc-53224 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53224 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53224 PE), fluorescein (sc-53224 FITC), Alexa Fluor® 488 (sc-53224 AF488), Alexa Fluor® 546 (sc-53224 AF546), Alexa Fluor® 594 (sc-53224 AF594) or Alexa Fluor® 647 (sc-53224 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53224 AF680) or Alexa Fluor® 790 (sc-53224 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

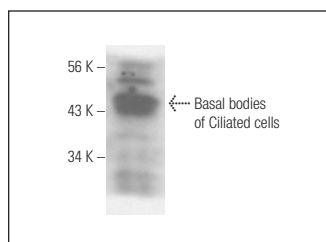
Basal bodies/ciliated cells (LhS 28) is recommended for detection of basal bodies of cilia in all ciliated cells of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Positive Controls: human fallopian tissue extract.

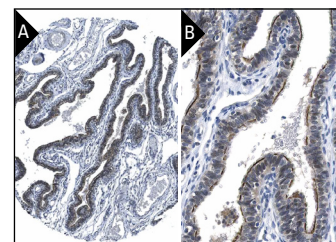
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Basal bodies of Ciliated cells (LhS 28): sc-53224. Western blot analysis of a novel protein associated with the Basal bodies of Ciliated cells expressed in human fallopian tissue extract.



Basal bodies/ciliated cells (LhS 28): sc-53224. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing membrane staining of apical portion of the glandular cells below the cilia at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Xiong, R., et al. 2019. Disease-related responses induced by cadmium in an *in vitro* human airway tissue model. *Toxicol. Lett.* 303: 16-27.

## 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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA