

# nephrocystin-2 (N-17): sc-12550

## BACKGROUND

Left-right asymmetry in vertebrates is essential for the development of lateral unpaired organs, including the heart, stomach and spleen, and is dependent on the differential expression of specific genes, which include nodal, lefty and nephrocystin-2. Nephrocystin-2, also known as inversin (INV), inversion of embryo turning homolog or NPHP2, is a 1,065 amino acid protein that exists as 3 alternatively spliced isoforms and is essential for establishment of the left-right axis and normal renal development. Localizing to the cytoplasm, cytoskeleton, membrane and nucleus, nephrocystin-2 is expressed during presomite-stage embryos and persists in adulthood, with high levels of expression in liver and kidney. Mice expressing nephrocystin-2 mutations are primarily generated by random insertional mutagenesis and result in the reversal of left/right polarity and cyst formation in the kidneys. Furthermore, altered nephrocystin-2 function reverses nodal and lefty expression, indicating that nephrocystin-2 signaling occurs upstream of these proteins involved in the development of asymmetry.

## REFERENCES

- Lux, S.E., et al. 1990. Analysis of cDNA for human erythrocyte ankyrin indicates a repeated structure with homology to tissue-differentiation and cell-cycle control proteins. *Nature* 344: 36-42.
- Yokoyama, T., et al. 1990. Conserved cysteine to serine mutation in tyrosinase is responsible for the classical albino mutation in laboratory mice. *Nucleic Acids Res.* 18: 7293-7298.
- Yokoyama, T., et al. 1993. Reversal of left-right asymmetry: a situs inversus mutation. *Science* 260: 679-682.
- Lowe, L.A., et al. 1996. Conserved left-right asymmetry of nodal expression and alterations in murine situs inversus. *Nature* 381: 158-161.

## CHROMOSOMAL LOCATION

Genetic locus: INVS (human) mapping to 9q31.1

## SOURCE

nephrocystin-2 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of nephrocystin-2 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-12550 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.

## RESEARCH USE

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

## APPLICATIONS

nephrocystin-2 (N-17) is recommended for detection of nephrocystin-2 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

nephrocystin-2 (N-17) is also recommended for detection of nephrocystin-2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for nephrocystin-2 siRNA (h): sc-106294, nephrocystin-2 shRNA Plasmid (h): sc-106294-SH and nephrocystin-2 shRNA (h) Lentiviral Particles: sc-106294-V.

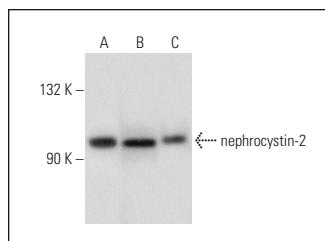
Molecular Weight of nephrocystin-2 isoforms: 118/100/11 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Raji whole cell lysate: sc-364236 or IMR-32 cell lysate: sc-2409.

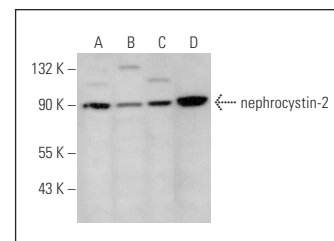
## RECOMMENDED SECONDARY REAGENTS

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



nephrocystin-2 (N-17): sc-12550. Western blot analysis of nephrocystin-2 expression in K-562 (A), Raji (B) and IMR-32 (C) whole cell lysates.



nephrocystin-2 (N-17): sc-12550. Western blot analysis of nephrocystin-2 expression in HeLa (A), Jurkat (B), MCF7 (C) and Raji (D) whole cell lysates.

## PROTOCOLS

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