

# VPS4 (N-14): sc-21461

## BACKGROUND

Class E vacuolar protein sorting (VPS) proteins are necessary for appropriate sorting of receptors in the yeast endocytic pathway. The yeast VPS4P is a member of the AAA protein family (ATPases associated with diverse cellular activities) and plays an important role in transporting proteins out of a prevacuolar endosomal compartment. In human, two non-allelic orthologous proteins (VPS4A and VPS4B) of yeast VPS4P are known and can form heteromeric complexes with each other. Both VPS4 (also known as SKD1 in mouse) proteins are class E VPS and are involved in intracellular protein trafficking, similar to VPS4P in yeast. A human CHMP1 protein, which is implicated in multivesicular body formation, physically interacts with VPS4. HIV-1 uses cellular machinery to bud from infected cells and requires VPS4 and TSG101/VPS23 for this budding process. Dominant negative mutant of VPS4 inhibit vacuolar protein sorting and also arrest HIV-1 and MLV budding. Thus, retroviruses normally use the VPS pathway to form multivesicular bodies during the budding process.

## REFERENCES

1. Bishop, N., et al. 2001. TSG101/mammalian VPS23 and mammalian VPS28 interact directly and are recruited to VPS4-induced endosomes. *J. Biol. Chem.* 276: 11735-11742.
2. Scheuring, S., et al. 2001. Mammalian cells express two VPS4 proteins both of which are involved in intracellular protein trafficking. *J. Mol. Biol.* 312: 469-480.
3. Howard, T.L., et al. 2001. CHMP1 functions as a member of a newly defined family of vesicle trafficking proteins. *J. Cell. Sci.* 114: 2395-2404.
4. Perez, O.D., et al. 2001. Resistance is futile: assimilation of cellular machinery by HIV-1. *Immunity* 15: 687-690.
5. Garrus, J.E., et al. 2001. TSG101 and the vacuolar protein sorting pathway are essential for HIV-1 budding. *Cell* 107: 55-65.

## CHROMOSOMAL LOCATION

Genetic locus: VPS4A (human) mapping to 16q22.1, VPS4B (human) mapping to 8q 21.33; Vps4a (mouse) mapping to 8 D3, Vps4b (mouse) mapping to 1 D.

## SOURCE

VPS4 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of VPS4A 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-21461 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.

## APPLICATIONS

VPS4 (N-14) is recommended for detection of VPS4A and, to a lesser extent, VPS4B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

VPS4 (N-14) is also recommended for detection of VPS4A and, to a lesser extent, VPS4B in additional species, including equine, canine, bovine and porcine.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 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) 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.

## 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.



Try **VPS4A (A-11): sc-393428** or **VPS4A (A-11): sc-393428**, our highly recommended monoclonal alternatives to VPS4 (N-14).