



SARS NC (vP-20): sc-27761

BACKGROUND

Severe acute respiratory syndrome (SARS) coronavirus, a recently emergent infectious agent, shares little homology with previously known coronaviruses with respect to its genes and encoding proteins. Following this pattern, SARS nucleocapsid protein (SARS NC) only weakly resembles analogous proteins of the coronavirus family, and thus estimations of its function prove difficult. In fact, the region encoding SARS NC and other matrix and nucleocapsid proteins more closely resembles avian coronaviruses, while phylogenetic analyses indicate a mammalian origin for the replicase protein. SARS NC expression increases the binding of transcription factors to promoter sequences of c-Fos, ATF2, CREB-1, and FosB, all components of the AP-1 signaling pathway. Other signaling pathways, i.e. the NF-kappaB pathway, are not effected, however, implying that pathway activation by SARS NC is selective, and thus possibly an important target in SARS functional studies.

REFERENCES

1. He, R., et al. 2003. Activation of AP-1 signal transduction pathway by SARS coronavirus nucleocapsid protein. *Biochem. Biophys. Res. Commun.* 311: 870-876.
2. Zhang, W.G., et al. 2003. [Genomic characterization of SARS coronavirus: a novel member of coronavirus]. *Yi. Chuan. Xue. Bao.* 30: 501-508.
3. Liu G., et al. 2003. The C-terminal portion of the nucleocapsid protein demonstrates SARS-CoV antigenicity. *Genomics Proteomics Bioinformatics.* 1: 193-7.
4. Stavrinides, J., et al. 2004. Mosaic evolution of the severe acute respiratory syndrome coronavirus. *J. Virol.* 78: 76-82.
5. Qiu M. et al., 2005. Use of the COOH portion of the nucleocapsid protein in an antigen-capturing enzyme-linked immunosorbent assay for specific and sensitive detection of severe acute respiratory syndrome coronavirus. *Clin. Diagn. Lab. Immunol.* 12: 474-6.
6. Pei H., et al. 2005. Expression of SARS-coronavirus nucleocapsid protein in *Escherichia coli* and *Lactococcus lactis* for serodiagnosis and mucosal vaccination. *Appl. Microbiol. Biotechnol.* [Epub]
7. van den Brink E.N., et al. 2005. Molecular and biological characterization of human monoclonal antibodies binding to the spike and nucleocapsid proteins of severe acute respiratory syndrome coronavirus. *J. Virol.* 79: 1635-44. [Epub]
8. Zakhartchouk A.N., 2005. Severe acute respiratory syndrome coronavirus nucleocapsid protein expressed by an adenovirus vector is phosphorylated and immunogenic in mice. *J. Gen. Virol.* 86: 211-5.

SOURCE

SARS NC (vP-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Nucleocapsid (NC) protein of SARS coronavirus origin.

STORAGE

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

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-27761 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SARS NC (vP-20) is recommended for detection of Nucleocapsid (NC) protein of SARS coronavirus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.