



SARS NC (3861): sc-58193

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, e.g. the NF κ B pathway, are not affected, however, implying that pathway activation by SARS NC is selective and thus possibly an important target in SARS functional studies.

REFERENCES

1. Zhang, W.G., et al. 2003. Genomic characterization of SARS coronavirus: a novel member of coronavirus. *Yi Chuan Xue Bao* 30: 501-508.
2. He, R., et al. 2003. Activation of AP-1 signal transduction pathway by SARS coronavirus nucleocapsid protein. *Biochem. Biophys. Res. Commun.* 311: 870-876.
3. Liu, G., et al. 2003. The C-terminal portion of the nucleocapsid protein demonstrates SARS-CoV antigenicity. *Genomics Proteomics Bioinformatics* 1: 193-197.
4. Stavriniades, J. and Guttman, D.S. 2004. Mosaic evolution of the severe acute respiratory syndrome coronavirus. *J. Virol.* 78: 76-82.
5. Zakhartchouk, A.N., et al. 2005. Severe acute respiratory syndrome coronavirus nucleocapsid protein expressed by an adenovirus vector is phosphorylated and immunogenic in mice. *J. Gen. Virol.* 86: 211-215.
6. 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: 1635-1644.
7. 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.* 68: 220-227.
8. 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: 474-476.

SOURCE

SARS NC (3861) is a mouse monoclonal antibody raised against SARS virus.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SARS NC (3861) is recommended for detection of nucleocapsid protein (NC) of SARS coronavirus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of SARS NC: 46 kDa.

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.

PROTOCOLS

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