SANTA CRUZ BIOTECHNOLOGY, INC.

CMV US28 (vC-17): sc-28042

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The Power to Question

BACKGROUND

Cytomegalovirus (CMV) is a member of the herpes virus group which includes herpes simplex virus types 1 and 2; Varicella Zoster Virus, which causes chicken pox; and Epstein Barr virus, which causes infectious mononucleosis. These viruses remain dormant within the body over a long period. In humans, CMV is known as HCMV or human herpesvirus 5 (HHV-5). The virally encoded protein CMV US28 functions as a homolog to cellular chemokine receptors, which belong to the family of G protein-coupled receptors (GPCRs). GPCRs play a crucial role in cellular communication, and chemokines and their receptors specifically facilitate the host antiviral response. Normally, exogenous chemokines such as MCP-1 and RANTES induce monocyte chemotaxis in infected cultures, however, CMV US28 sequesters extracellular chemokines from the environment of infected cells, providing a defense to the immune response to infected cells.

REFERENCES

1. Mokros, T., et al. 2002. Surface expression and endocytosis of the human Cytomegalovirus-encoded chemokine receptor US28 is regulated by agonist-independent phosphorylation. J. Biol. Chem. 277: 45122-45128.
2. Randolph-Habecker, J.R., et al. 2002. The expression of the Cytomegalovirus chemokine receptor homolog US28 sequesters biologically active C-C chemokines and alters IL-8 production. Cytokine 19: 37-46.
3. Smit, M.J., et al. 2003. Virally encoded G protein-coupled receptors: targets for potentially innovative anti-viral drug development. Curr. Drug Targets 4: 431-441.
4. Droese, J., et al. 2004. HCMV-encoded chemokine receptor US28 employs multiple routes for internalization. Biochem. Biophys. Res. Commun. 322: 42-49.
5. McLean, K.A., et al. 2004. Similar activation of signal transduction pathways by the herpesvirus-encoded chemokine receptors US28 and ORF74. Virology 325: 241-251.
6. Melnychuk, R.M., et al. 2004. Human cytomegalovirus-encoded G protein-coupled receptor US28 mediates smooth muscle cell migration through $G_{\alpha 12}$. J. Virol. 78: 8382-8391.
7. Casarosa, P., et al. 2005. CC and CX3C chemokines differentially interact with the N terminus of the human Cytomegalovirus-encoded US28 receptor. J. Biol. Chem. 280: 3275-3285.

SOURCE

CMV US28 (vC-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of US28 of CMV 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-28042 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CMV US28 (vC-17) is recommended for detection of US28 of CMV 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).

Molecular Weight of CMV US28: 41 kDa.

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.

SELECT PRODUCT CITATIONS

1. Lepiller, Q., et al. 2013. HCMV activates the IL-6-JAK-STAT3 axis in HepG2 cells and primary human hepatocytes. PLoS ONE 8: e56231.

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 or our catalog for detailed protocols and support products.