SANTA CRUZ BIOTECHNOLOGY, INC.

VZV thymidine kinase (vC-20): sc-17554

BACKGROUND

Varicella-zoster virus, otherwise known as VZV, is associated with two distinct diseases: childhood chickenpox (varicella) and shingles (zoster). VZV becomes dormant in sensory ganglia and may reactivate decades later to produce zoster (shingles) or herpes zoster. Acyclovir is an acyclic nucleoside analogue that has a high activity and selectivity for herpes viruses, particularly herpes simplex viruses types 1 and 2 and VZV. This selectivity is due to the initial activation of the drug by phosphorylation by a herpes virus-specified thymidine kinase. Acyclovir is converted to the monophosphate by viral thymidine kinase. Viral resistance to acyclovir may occur due to loss of thymidine kinase activity, alterations in thymidine kinase substrate specificity, or decreased DNA-polymerase sensitivity. The most common mechanism of resistance is loss of thymidine kinase activity. These viral variants are also cross-resistant to other antiviral agents activated by thymidine kinase, such as ganciclovir or penciclovir. Thymidine kinase negative variants of herpes virus may cause severe disease in infants and immunocompromised patients.

REFERENCES

1. Elion, G.B. 1983. The biochemistry and mechanism of action of acyclovir. J. Antimicrob. Chemother. B: 9-17.
2. De Clercq, E. 1993. Antivirals for the treatment of herpesvirus infections. J. Antimicrob. Chemother. A: 121-132.
3. Snoeck, R., Andrei, G. and De Clercq, E. 1999. Current pharmacological approaches to the therapy of varicella zoster virus infections: a guide to treatment. Drugs 2: 187-206.
4. Kleinschmidt-DeMasters, B.K. and Gilden, D.H. 2001. Varicella-zoster virus infections of the nervous system: clinical and pathologic correlates. Arch. Pathol. Lab. Med. 6: 770-780.

SOURCE

VZV thymidine kinase (vC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of thymidine kinase of varicella-zoster virus (VZV), also designated HHV-3, 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-17554 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.

PROTOCOLS

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

APPLICATIONS

VZV thymidine kinase (vC-20) is recommended for detection of thymidine kinase of VZV/HHV-3 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.