

La Crosse Virus G1/G2 (10G5.4): sc-57891

BACKGROUND

La Crosse Virus is an arbovirus (specifically, a *Bunyavirus*) that causes La Crosse encephalitis. It is a zoonotic pathogen that cycles between the day-time-biting treehole mosquito, *Aedes triseriatus* and vertebrate amplifier hosts in deciduous forest habitats. The viruses stay alive during the winter in mosquito eggs, which then hatch into virus-carrying mosquitoes that can transmit La Crosse Virus to humans. The La Crosse Virus genome contains three negative-sense RNA segments designated by their size. The large (L) segment encodes an RNA-dependent RNA polymerase; the medium (M) segment encodes a polyprotein precursor that is posttranslationally cleaved into the envelope glycoproteins G1 and G2 and a third polypeptide, NSm; and a small (S) segment encoding for the nucleocapsid protein. Symptoms of infection include nausea, headache and vomiting in milder cases and seizures, coma, paralysis and permanent brain damage in severe cases.

REFERENCES

1. Sundin, D.R., Beaty, B.J., Nathanson, N. and Gonzalez-Scarano, F. 1987. A G1 glycoprotein epitope of La Crosse Virus: a determinant of infection of *Aedes triseriatus*. *Science* 235: 591-593.
2. Woodring, J., Chandler, L.J., Oray, C.T., McGaw, M.M., Blair, C.D. and Beaty, B.J. 1998. Short report: Diapause, transovarial transmission and filial infection rates in geographic strains of La Crosse Virus-infected *Aedes triseriatus*. *Am. J. Trop. Med. Hyg.* 58: 587-588.
3. Bupp, K. and González-Scarano, F. 1998. Pseudotype formation with La Crosse Virus glycoproteins. *J. Gen. Virol.* 79: 667-671.
4. Schuh, T., Schultz, J., Moelling, K. and Pavlovic, J. 1999. DNA-based vaccine against La Crosse Virus: protective immune response mediated by neutralizing antibodies and CD4⁺ T cells. *Hum. Gene Ther.* 10: 1649-1658.
5. Pavlovic, J., Schultz, J., Hefti, H.P., Schuh, T. and Mölling, K. 2001. DNA vaccination against La Crosse Virus. *Intervirology* 43: 312-321.
6. Blakqori, G., Kochs, G., Haller, O. and Weber, F. 2003. Functional L polymerase of La Crosse Virus allows *in vivo* reconstitution of recombinant nucleocapsids. *J. Gen. Virol.* 84: 1207-1214.
7. Graham, D.H., Holmes, J.L., Beaty, B.J. and Black, W.C. 2003. Quantitative trait loci conditioning transovarial transmission of La Crosse Virus in the eastern treehole mosquito, *Ochlerotatus triseriatus*. *Insect Mol. Biol.* 12: 307-318.
8. Soldan, S.S., Plassmeyer, M.L., Matukonis, M.K. and González-Scarano, F. 2004. La Crosse Virus nonstructural protein NSs counteracts the effects of short interfering RNA. *J. Virol.* 79: 234-244.
9. Kempf, B.J., Blair, C.D. and Beaty, B.J. 2006. Quantitative analysis of La Crosse Virus transcription and replication in cell cultures and mosquitoes. *Am. J. Trop. Med. Hyg.* 74: 224-232.

SOURCE

La Crosse Virus G1/G2 (10G5.4) is a mouse monoclonal antibody raised against La Crosse Virus grown on E6 Vero cells.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

La Crosse Virus G1/G2 (10G5.4) is available conjugated to agarose (sc-57891 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-57891 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-57891 PE), fluorescein (sc-57891 FITC), Alexa Fluor® 488 (sc-57891 AF488), Alexa Fluor® 546 (sc-57891 AF546), Alexa Fluor® 594 (sc-57891 AF594) or Alexa Fluor® 647 (sc-57891 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-57891 AF680) or Alexa Fluor® 790 (sc-57891 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

La Crosse Virus G1/G2 (10G5.4) is recommended for detection of La Crosse Virus G1 and G2 of La Crosse Virus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of La Crosse Virus G1/G2: 120/35 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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.