SANTA CRUZ BIOTECHNOLOGY, INC.

HTLV-1 Tax (1A3): sc-57872



BACKGROUND

HTLV-1 causes two distinct human diseases, HTLV-1-associated myelopathy/ tropical spastic paraparesis (HAM/TSP) and adult T cell leukemia/lymphoma (ATL). The glycoproteins encoded by the env gene of HTLV-1 are essential for interaction with an unidentified receptor on the surface of target cells and play a crucial role in the infection process. Encoded by HTLV-1 Tax is a phospho-oncoprotein that functions as a transcriptional activator. Tax has the ability to modulate the expression and function of many cellular genes and has been crucial to understanding the HTLV-1-mediated transformation of cells. In activating cellular gene expression, Tax impinges upon several cellular signal-transduction pathways, including the CREB/ATF and NF κ B pathways. In addition, Tax deregulates the expression of downstream genes, which mediate cell cycle control.

REFERENCES

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- Tallet, B., et al. 2001. Sequence variations in the amino- and carboxy-terminal parts of the surface envelope glycoprotein of HTLV type 1 induce specific neutralizing antibodies. AIDS Res. Hum. Retroviruses 17: 337-348.
- 4. Carter, R.S., et al. 2001. Persistent activation of NF κ B by the Tax transforming protein involves chronic phosphorylation of I κ B kinase subunits IKK β and IKK γ . J. Biol. Chem. 276: 24445-24448.
- 5. Jeang, K.T. 2001. Functional activities of the human T-cell leukemia virus type I Tax oncoprotein: cellular signaling through NF κ B. Cytokine Growth Factor Rev. 12: 207-217.

SOURCE

HTLV-1 Tax (1A3) is a mouse monoclonal antibody raised against full length HTLV-1 Tax.

PRODUCT

Each vial contains 50 μg lgG_{2a} in 500 μl of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HTLV-1 Tax (1A3) is recommended for detection of HTLV-1 Tax proteins expressed in transiently transfected cells of HTLV-1 origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:2500) and solid phase ELISA (starting dilution to be determined by researcher, dilution to be determined by

STORAGE

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

SELECT PRODUCT CITATIONS

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- 4. Wang, J., et al. 2017. HLA-DMB restricts human T-cell leukemia virus type-1 (HTLV-1) protein expression via regulation of ATG7 acetylation. Sci. Rep. 7: 14416.
- Huang, Q., et al. 2017. HTLV-1 Tax upregulates early growth response protein 1 through nuclear factor-κB signaling. Oncotarget 8: 51123-51133.
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- Malu, A., et al. 2019. The human T-cell leukemia virus type-1 Tax oncoprotein dissociates NFκB p65^{ReIA}-Stathmin complexes and causes catastrophic mitotic spindle damage and genomic instability. Virology 535: 83-101.
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- 10. Mohanty, S., et al. 2020. The E3/E4 ubiquitin conjugation factor UBE4B interacts with and ubiquitinates the HTLV-1 Tax oncoprotein to promote NF κ B activation. PLoS Pathog. 16: e1008504.
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- Mohanty, S., et al. 2024. The tyrosine kinase KDR is essential for the survival of HTLV-1-infected T cells by stabilizing the Tax oncoprotein. Nat. Commun. 15: 5380.

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.

Molecular Weight of HLV-1 Tax: 40 kDa.