SANTA CRUZ BIOTECHNOLOGY, INC.

NK Cell Marker (ANK61): sc-59340

BACKGROUND

Natural killer (NK) cells are large, granular, bone-marrow derived lymphocytes and are a component of innate immune defense. They are activated in response to interferons or macrophage-derived cytokines. Rather than destroying the attacking microorganisms directly, NK cells attack cells that have been infected by the microbes. NK cells contain special proteins in their cytoplasm, such as proteases called granzymes, as well as Perforin. Perforin makes pores in the target cell membrane, allowing the granzymes, water and ions to diffuse into the cell. This causes expansion of the cell until it eventually lyses under pressure. Individuals who lack NK cells are highly susceptible to early phases of herpes virus infection.

REFERENCES

1. Bai, Y., et al. 1983. Two monoclonal antibodies identifying a subset of human peripheral mononuclear cells with natural killer cell activity. Eur. J. Immunol. 13: 521-527.
2. Korfer, A., et al. 1989. Immunophenotypic demonstration of two natural killer surface markers, H25 and H366, on fresh human leukemic cells. Acta Haematol. 82: 193-196.
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5. Brown, M.G., et al. 1997. The natural killer gene complex: a genetic basis for understanding natural killer cell function and innate immunity. Immunol. Rev. 155: 53-65.
6. Leibson, P.J. 1997. Signal transduction during natural killer cell activation: inside the mind of a killer. Immunity 6: 655-661.
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8. Cooper, M.A., et al. 2001. The biology of human natural killer-cell subsets. Trends Immunol. 22: 633-640.

SOURCE

NK Cell Marker (ANK61) is a mouse monoclonal antibody raised against IL-2-activated cultured NK cells of rat origin.

PRODUCT

Each vial contains 250 µl culture supernatant containing IgG_1 with < 0.1% sodium azide.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

APPLICATIONS

NK Cell Marker (ANK61) is recommended for detection of activated and inactivated NK cells and αβ-TCR T cells in freshly isolated and cultured NK cells of mouse and rat origin by immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200) and flow cytometry (10-20 µl per 1 x 10^6 cells); may cross-react with rat B cells.

SELECT PRODUCT CITATIONS

1. Altomonte, J., et al. 2008. Synergistic antitumor effects of transarterial viroembolization for multifocal hepatocellular carcinoma in rats. Hepatology 48: 1864-1873.
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4. Wu, J., et al. 2014. Peripheral blood $CD8\alpha\alpha^+CD11c^+MHC\text{-}II^+CD3^-$ cells attenuate autoimmune glomerulonephritis in rats. Kidney Int. 85: 1078-1090.
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6. Bianchi, P.K.F.D.C., et al. 2017. Progesterone decreases *in vitro* indoleamine 2, 3-dioxygenase expression in dendritic and $CD4^+$ cells from maternal-fetal interface of rats. Immunol. Invest. 46: 447-459.
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10. Fang, M., et al. 2022. TRIM18 is a critical regulator of viral myocarditis and organ inflammation. J. Biomed. Sci. 29: 55.

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.