Docket #: S04-250

Monoclonal antibodies against rat NKp30 (rNKp30)

RNKp30 monoclonal antibodies were generated by immunizing BALB/c mice with rNKp30-Fc fusion protein. The rNKp30-Fc fusion protein is a soluble protein consisting of the extracellular domain of rNKp30 fused to the Fc domain of human IgG1. To produce rNKp30-Fc protein, we cloned a DNA construct fusing rNKp30 and human IgG1 Fc and stably transfected the DNA into 293F cells. RNKp30-Fc protein was secreted by 293F cells. Supernatants from these cells were harvested and the fusion protein was purified. Purified protein was used to inject into mice 3-4 times to generate an immune response. Serums and supernatants from hybridomas generated from the mice were screened for specificity to rNKp30 by ELISA and flow cytometry. Hybridomas positive for expression of rNKp30-specific antibodies were expanded. Supernatants from these hybridomas contain the anti-rNKp30 monoclonal antibodies.

Applications

- The purpose of thie invention was to produce reagents to investigate a novel receptor, rNKp30 (also known as 1C7) on the surface of rat cells. These monoclonal antibodies (mAbs) help solve the biology and identify ligands of this receptor in addition to helping identify the cells that express this molecule. These reagents are essential in studying NKp30 expression as they can detect this molecule on NKp30 transfected cells and on leukocyte subsets. RNKp30 mAbs can be used in functional assays to activate or block this receptor. RNKp30 mAbs can also be used to study downstream signaling pathways of this receptor. These reagents may also be used in experimental animal models in vivo to manipulate cellular subsets. Experimental animal models of interest include those involved in transplantation, immunology, autoimmunity, cancer biology, reproductive biology, neurobiology, and microbiology. These reagents may also be crossreactive to other species.

Advantages

- These rNKp30 mAbs are currently the best reagent to detect and activate rNKp30. These reagents are superior to existing polyclonal antibodies in detecting endogenously expressed receptor protein.

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