Natural Killer Cells

Natural killer (NK) cells are lymphocytes of the innate immune system that function as both cytolytic effectors and regulators of immune responses. NK cells express a large number of receptors that deliver either activating or inhibitory signals, and the relative balance of these signals controls NK cell activity.

NK cells are activated upon detection of abnormalities in target cells such as the loss of MHC class I expression or up-regulation of stress-induced ligands in response to infection or neoplastic transformation. Indeed, many viruses have evolved strategies to evade detection by NK cells or to modulate their activity.

A variety of receptors trigger the NK cytolytic activity directed toward certain tumor targets, virally infected cells, and even normal immune system constituents such as immature dendritic cells. NK cells are also important regulators of the adaptive immune system via their ability to secrete a number of cytokines in response to immune activation.

NK Cell Research Reagents

MOLECULE	ANTIBODIES	PROTEINS	ELISA/ASSAYS
2B4/SLAMF4	H M		
CD155/PVR	H	H	
CD94	H		
CRACC/SLAMF7	H		
DNAM-1	H	H	
Fc Receptors	Please see our website for a detailed listing		
Granzyme A, H	H	H	H M
Granzyme B	H M	H M	
Granzyme D, G	M	M	
Granulysin	H	H	
H60	M	M	
ILT2, 4	H	H	
ILT3, 5, 6	H		
Integrin α2/CD49B	H M		
KIR/CD158	H		

MOLECULE	ANTIBODIES	PROTEINS	ELISA/ASSAYS
KIR2DL1	H		
KIR2DL3	H		
KIR2DL4/CD158d	H	H	
KIR2DS4	H		
KIR3DL1	H		
KIR3DL2		H	
KIR3DS1		H	
LAIR1	H	M	
LCK	H	H	
LMIR1/CD300A	H		
LMIR2/CD300c	H		
MICA, MICB	H	H	H
MULT-1	M	M	
Nectin-2/CD112	H	H	
NKG2A	H		

MOLECULE	ANTIBODIES	PROTEINS	ELISA/ASSAYS
NKG2C	H		
NKG2D	H M	H M	
NKp30	H	H	
NKp44	H	H	
NKp46/NCR1	H M	H M	
NKp80/KLRF1	H		
NTB-A/SLAMF6	H M		
Rae-1	M		
Rae-1α, 1β, 1δ		M	
Rae-1γ, 1ε	M	M	
SLAM/CD150	H		
SLAMF3/CD229	H M		
ULBP-1, 2, 3	H	H	

Key: H Human M Mouse

NKp46 & NCAM-1-Expressing PBLs

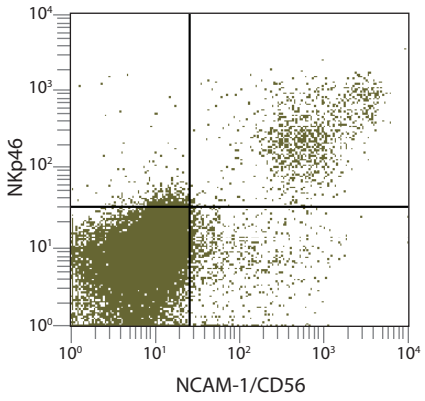

Figure 1. Human peripheral blood lymphocytes (PBL) were examined by flow cytometry to determine the relative number of cells expressing cell surface NKp46/CD335 and/or NCAM-1/CD56. Cells were double stained with R&D Systems anti-human NKp46 allophycocyanin (AP)-conjugated antibody (Catalog # FAB1850A) and an anti-human NCAM-1/CD56 Phycoerythrin (PE)-conjugated antibody.

Granzyme B Detected by EliSpot

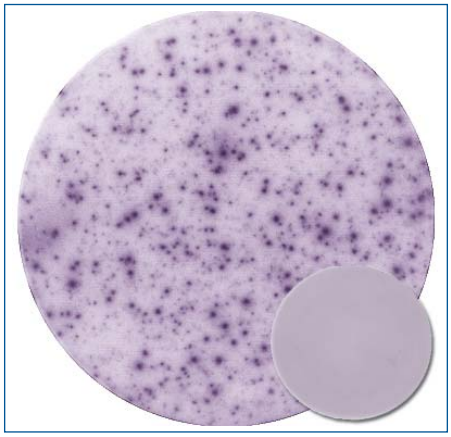

Figure 2. Granzyme B-secreting cells were assessed using R&D Systems human Granzyme B ELISpot Kit (Catalog # EL2906). PBMCs were stimulated with calcium ionomycin and PMA, and directly added to the ELISpot plate for 17 hours. The numbers of Granzyme B-secreting cells are revealed as spots in the microplate well. The inset shows a well in which no detection antibody was added.

ULBP-2 Expression in Colon Cancer Tissue

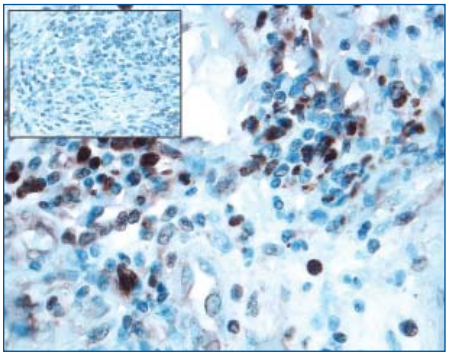

Figure 3. Tumor cell-expressed ULBP-2 functions as a ligand for the NK cell-activating receptor NKG2D, and has putative involvement in tumor surveillance. ULBP-2 was detected in paraffin-embedded human colon cancer tissue sections using R&D Systems anti-human ULBP-2 polyclonal antibody (Catalog # AF1298). Tissues were first subjected to an antigen-retrieval procedure using R&D Systems Antigen Retrieval Reagent-Basic (Catalog # CTS013). Sections were stained using R&D Systems anti-goat HRP-DAB Cell and Tissue Staining Kit (Catalog # CTS008; brown) and counterstained with hematoxylin (blue). The inset shows control staining in the absence of primary antibody.