

Time: 2024.06.07-2024.06.09

1. **Experiment:** Investigation of NK cell receptors
2. **Time:** 2024.06.07-2024.06.09
3. **Member:** Song Zhang, Yaqi Gao, Xinyu Zhu, Yinran Luo, Xudong Tang, Xiaoyuan Chen, Hanyue Liu
4. **Method:** By searching the literature and consulting the website, the information of various receptors of NK cells was learned in terms of their corresponding ligands, clinical batch numbers, related application and importance evaluation.
5. **Result:** The information of KAR and KIR has been listed in the following table.

Table.1 Investigation data of KAR and KIR of NK cells.

Number	Category	Receptor	Ligand	Clinical Batch Number
1	KIR	TIGIT	PVR, PVRL2, CD155	1) Nivolumab [I:1.NCT03119428:locally advanced cancer metastatic cancer 2. NCT04465643: neurilemmoma 3. NCT03667716: breast cancer, colorectal cancer, endometrial cancer II: 1. NCT04761198: melanoma 2. NCT04570839: endometrial cancer,head and neck cancer,ovarian cancer 3. NCT03342417: gastric cancer breast cancer ovarian cancer, III: 1.NCT05568095: advanced upper gastrointestinal tract adenocarcinoma 2. NCT06346197: gastric cancer] 2) Pembrolizumab [I: 1.NCT04354246:colon cancer, lung cancer,ovarian cancer 2. NCT04374877: Advanced Solid Tumor, Clear Cell Renal Cell Carcinoma, Hepatocellular Carcinoma, Non-small Cell Lung Cancer 3. NCT04323202: Basal Cell Carcinoma of the Head and Neck 4. NCT03772899: melanoma 5. NCT04305054: melanoma II: 1. NCT05060432:head and neck cancer, lung cancer, melanoma 2.NCT03447678:non-small cell lung cancer 3. NCT05805501:Renal Cell Carcinoma 4. NCT05809895: three negative breast cancer 5. NCT04303169: melanoma 6.NCT04305041: melanoma 7.NCT04305054: melanoma III: 1.NCT04736173: lung cancer 2.NCT04746924: non-small cell lung cancer 3.NCT05665595: melanoma] 3) Axitinib [II: 1.NCT04585815:non-small cell lung cancer] 4) Dexamethasone [II: 1.NCT04150965:multiple myeloma 2.NCT05289492: multiple myeloma] 5) Docetaxel [II: 1.NCT05676931:non-small cell lung cancer] 6) Ipilimumab [I:1.NCT04465643:neurilemmoma II:1.NCT03342417: breast cancer,gastric cancer, ovarian cancer 2.NCT03739710: non-small cell lung cancer] 1.NCT06125652:Acute Myeloid Leukemia Refractory
2	KIR	TIM3	GALECTIN	1.NCT06125652:Acute Myeloid Leukemia Refractory

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			9, MHCII	Acute Myeloid Leukemia, in Relapse 2.NCT06056895:Clinical Stage IV Merkel Cell Carcinoma AJCC v8, Merkel Cell Carcinoma, Unresectable Clinical Stage III Merkel Cell Carcinoma AJCC v8 3.NCT05287113:Head and Neck Cancer 4.NCT05216835:Relapsed or Refractory Classical Hodgkin Lymphoma 5.NCT04931654:Carcinoma, Non-Small-Cell Lung, Gastric Cancer, Gastroesophageal Junction Cancer 6.NCT04370704:melanoma	
3	KIR	CD39	Adenosine	1.NCT05075564:Advanced Solid Tumor 2.NCT04306900:solid tumor 3.NCT05648188:non-small cell lung cancer 4.NCT05374226:solid tumor	
4	KIR	A2AR	Adenosine	1.NCT04495179:Progressive Metastatic Castrate-Resistant Prostate Cancer 2.NCT05501054:Renal Cell Carcinoma 3.NCT05920408:advanced solid tumor	
5	KIR	CD73	Adenosine	1.NCT05632328:Advanced Pancreatic Ductal Adenocarcinoma, Pancreatic Cancer, Pancreatic Ductal Adenocarcinoma 2.NCT05174585:solid tumor 3.NCT04940286:pancreatic cancer	
6	KIR	KIR3DL2	HLA-A	1.NCT05321147:Peripheral T Cell Lymphoma 2.NCT02593045:Cutaneous T-Cell Lymphoma	
7	KIR	KIR3DL3	HHLA2	1.NCT05958199:Locally Advanced Cancer, Metastatic Cancer	
8	KIR	2B4 (CD244)	CD48	-	
9	KIR	Siglec7/9	Sialic acids	-	
10	KIR	LIR-1	HLA-A-G	-	
11	KIR	KIR3DL1	HLA-B	-	
12	KIR	NKG2B	HLA-E	-	
13	KIR	LAIR-1	Collagen	-	
14	KIR	LILRB1	ICAM-1	-	
15	KIR	NKp44	PCNA, NID1	-	
16	KIR	NKR-P1B	CIr-b MHC II, Galectin-3, Liver	-	
17	KIR	LAG3	sinusoidal endothelial cell lectin, Fibrinogen-like protein 1,	-	

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			Pre-formed fibrils (PFF) of α -synuclein	
18	KIR	CD96	CD155, CD111	-
19	KIR	CEACA M-1	CEACAM-1/ 5	-
20	KIR	KIR2DL1	HLA-C2	-
21	KIR	KIR2DL2	HLA-C1	-
22	KIR	KIR2DL3	HLA-C1	-
23	KIR	KIR2DL5	PVR	-
			E-Cadherins, N-Cadherins, R-Cadherins	
24	KIR	KLRG1		-
25	KIR	LFA1	HLA-I	-
26	KIR	NKG2A/ CD94	HLA-E	-
				1.NCT02543645: Bladder Cancer, Carcinoma, Renal Cell, Clear-cell Metastatic Renal Cell Carcinoma, Head and Neck Cancer
				2.NCT02386111: Carcinoma, Renal Cell, Clear-cell Metastatic Renal Cell Carcinoma, Kidney Diseases, Kidney Neoplasms
				3.NCT03307746: B Cell Lymphoma
				4.NCT02335918: Colorectal Cancer (CRC)-Enrollment Completed, Glioblastoma (GBM) (Phase II Only)-Enrollment Completed, Ovarian Carcinoma-Enrollment Completed, Renal Cell Carcinoma (RCC) (Phase II Only), Squamous Cell Carcinoma of the Head and Neck (SCCHN),
27	KAR	CD27	CD70	5.NCT02413827: Unresectable Stage III or Stage IV Melanoma
				6.NCT03038672: Relapsed or Refractory Aggressive B-cell Lymphomas
				7.NCT02270372: Advanced Breast Carcinoma, Advanced Ovarian Carcinoma
				8.NCT04081688: Refractory Lung Non-Small Cell Carcinoma, Stage IV Lung Cancer AJCC v8
				9.NCT02284971: Prostate Cancer, Prostatic Neoplasms
				1.NCT01577173: Head and Neck Cancer
				2. NCT02665650: Hodgkin Lymphoma
				3.NCT03192202: Lymphoma, T-Cell, Cutaneous
28	KAR	CD16a	IgG Fc	4.NCT04074746: Recurrent Anaplastic Large Cell Lymphoma, Recurrent B-Cell Non-Hodgkin Lymphoma, Recurrent Classic Hodgkin Lymphoma, Recurrent Mycosis

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			Fungoides, Recurrent Peripheral T-Cell Lymphoma, Not Otherwise Specified, Refractory Anaplastic Large Cell Lymphoma, Refractory B-Cell Non-Hodgkin Lymphoma, Refractory Classic Hodgkin Lymphoma, Refractory Mycosis Fungoides, Refractory Peripheral T-Cell Lymphoma, Not Otherwise Specified
			5.NCT04101331: Peripheral T Cell Lymphoma,Transformed Mycosis Fungoides
			6. NCT04259450: Advanced Solid Tumor, NCT05109442: Advanced Solid Tumor
			7. NCT03902184: Lymphoma, T-Cell, Lymphoma, T-Cell, Cutaneous, Mycosis Fungoides/Sezary Syndrome
			1.NCT05086315: Acute Lymphocytic Leukaemia, Acute Myeloid Leukaemia Refractory, Blastic Plasmacytoid Dendritic Cell Neoplasia, Myelodysplastic Syndromes
29	KAR	NKp46	CFP Complete Factor, Viral HA
			2.NCT05839626: Amyloid Light-chain Amyloidosis, Relapsed/Refractory Multiple Myeloma
			3.NCT01915992: Leukemia
30	KAR	KIR3DS1	HLA-F.HLA-Bw4
			HLA-DP401.
31	KAR	NKp44	PDGF-DD.PC
			NA.nidogen 1
32	KAR	NKp65	KACL.CLEC 2A
33	KAR	KIR2DS2	HLA-A/C
34	KAR	KIR2DL4	HLA-G, HS
35	KAR	CD94/NK G2C	mHsp70, HLA-E
36	KAR	CRTAM	Necl-2
37	KAR	NTB-A	NTB-A
38	KAR	CD2	CD58
39	KAR	KIR2DS3	unknown
40	KAR	KIR2DS5	HLA-C2
41	KAR	KIR3DL2	CpG
42	KAR	NKp30	B7-H6, BAT3, BAG6
43	KAR	KIR2DS1	HLA-C2
			HLA-A,
44	KAR	KIR2DS4	HLA-C, HLA-F
45	KAR	NKp80 (KLRF1)	AICL
46	KAR	NKG2D (CD159a)	MICA/B, ULBP1-6,

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			Ae-1, H60, MULT1	
47	KAR	TRAIL (CD253)	TRAILR1a, TRAILR2	-
48	KAR	DNAM1 (CD226)	CD112, CD155	-
