



MACS® Products for NK cell research

Natural killer (NK) cells play a central role in the innate immune system. Several subsets of NK cells with different functions, tightly regulated by a series of inhibitory or activating receptors, are identified so far. To enable

scientists to get a deeper understanding of the full role that NK cells play in immune defense and regulation, Miltenyi Biotec offers a range of innovative products for the specific isolation and analysis of NK cells.

Product	Clone, isotype	Conjugate	Capacity / Content	Order no.
NK cell analysis · Antibodies · Human				
Anti-KIR2D	NKVFS1, mouse IgG1	PE	100 tests	130-092-688
		APC	100 tests	130-092-687
		Biotin	100 tests	130-092-904
		pure	100 µg in 1 mL	130-092-689
Anti-iNKT (6B11)	6B11, mouse IgG1	PE	100 tests	130-094-838
		APC	100 tests	130-094-839
		Biotin	100 tests	130-094-841
Anti-iNKT (6B11) – functional grade	6B11, mouse IgG1	pure	100 µg in 1 mL	130-094-865
Anti-NKp80	4A4.D10, mouse IgG1	FITC	100 test	130-094-843
		PE	100 tests	130-094-844
		APC	100 tests	130-094-845
		Biotin	100 tests	130-095-114
		pure	100 µg in 1 mL	130-094-846
CD2	LT2, mouse IgG2b	PE	100 tests	130-091-115
CD2 – functional grade	LT2, mouse IgG2b	Biotin	100 µg in 1 mL	130-093-376
CD3	BW264/56, mouse IgG2a	FITC	100 tests	130-080-401
		PE	100 tests	130-091-374
		APC	100 tests	130-091-373
CD3 – functional grade	OKT3, mouse IgG2a	Biotin	100 µg in 1 mL	130-093-377
		pure	100 µg in 1 mL	130-093-387
CD8	BW135/80, mouse IgG2a	VioBlue	100 tests	130-094-152
		FITC	100 tests	130-080-601
		PE	100 tests	130-091-084
		APC	100 tests	130-091-076
		PerCP	100 tests	130-094-972

Product	Clone, isotype	Conjugate	Capacity / Content	Order no.
CD11b	M1/70.15.11.5, rat IgG2b	FITC	100 tests	130-081-201
		PE	100 tests	130-091-240
		APC	100 tests	130-091-241
CD11c	MJ4-27G12.4.6, mouse IgG2b	FITC	100 tests	130-092-410
		PE	100 tests	130-092-411
		APC	100 tests	130-092-412
		Biotin	100 tests	130-092-413
		pure	100 µg in 1 mL	130-092-414
CD16	VEP13, mouse IgM	FITC	100 tests	130-091-244
		PE	100 tests	130-091-245
		APC	100 tests	130-091-246
CD26	FR10-11G9, mouse IgG2a	PE	100 tests	130-093-440
		APC	100 tests	130-093-441
		Biotin	100 tests	130-093-442
CD27	M-T271, mouse IgG1	FITC	100 tests	130-093-184
		PE	100 tests	130-093-185
		APC	100 tests	130-093-186
		Biotin	100 tests	130-093-196
CD38	IB6, mouse IgG2b	FITC	100 tests	130-092-259
		PE	100 tests	130-092-260
		APC	100 tests	130-092-261
		Biotin	100 tests	130-092-288
CD45	5B1, mouse IgG2a	VioBlue	100 tests	130-092-880
		FITC	100 tests	130-080-202
		PE	100 tests	130-080-201
		APC	100 tests	130-091-230
		PerCP	100 tests	130-094-975
CD56	AF12-7H3, mouse IgG1	PE	100 tests	130-090-755
		APC	100 tests	130-090-843
		pure	50 µg in 1 mL	130-090-955
CD57	TB03, mouse IgGM	FITC	100 tests	130-092-174
		PE	100 tests	130-092-139
		APC	100 tests	130-092-141
		Biotin	100 tests	130-092-620
CD62L	145/15, mouse IgG1	FITC	100 tests	130-091-757
		PE	100 tests	130-091-756
		APC	100 tests	130-091-755
CD69	FN50, mouse IgG1	FITC	100 tests	130-092-166
		PE	100 tests	130-092-160
		APC	100 tests	130-092-159
		Biotin	100 tests	130-092-161
CD107a	H4A3, mouse IgG1	VioBlue	100 tests	130-095-520
		FITC	100 tests	130-095-518
		PE	100 tests	130-095-515
		APC	100 tests	130-095-510
CD154	5C8, mouse IgG2a	PE	100 tests	130-092-289
		APC	100 tests	130-092-290
		Biotin	100 tests	130-092-690

Product	Clone, isotype	Conjugate	Capacity / Content	Order no.
CD158a/h (KIR2DL1/ DS1)	11PB6, mouse IgG1	FITC	100 tests	130-092-811
		PE	100 tests	130-092-684
		APC	100 tests	130-092-685
		Biotin	100 tests	130-092-683
		pure	100 µg in 1 mL	130-092-682
CD158b (KIR2DL2/DL3)	DX27, mouse IgG2a	PE	100 tests	130-092-618
		APC	100 tests	130-092-617
		PerCP	100 tests	130-095-285
		pure	100 µg in 1 mL	130-092-615
CD158e (KIR3DL1)	DX9, mouse IgG1	VioBlue	100 tests	130-095-234
		FITC	100 tests	130-092-568
		PE	100 tests	130-092-473
		APC	100 tests	130-092-474
		PerCP	100 tests	130-095-287
		Biotin	100 tests	130-092-475
CD158e/k (KIR3DL1/DL2)	5.133, mouse IgG1	PE	100 tests	130-095-205
		Biotin	100 tests	130-095-201
		pure	100 µg in 1 mL	130-095-199
CD158f (KIR2DL5)	UP-R1, mouse IgG1	PE	100 tests	Coming soon
		pure	100 µg in 1 mL	Coming soon
CD158i (KIR2DS4)	JJC11.6, mouse IgG1	PE	100 tests	130-092-680
		APC	100 tests	130-092-681
		Biotin	100 tests	130-092-898
		pure	100 µg in 1 mL	130-092-679
CD161 (NKR-P1A)	191B8, mouse IgG2a	FITC	100 tests	130-092-907
		PE	100 tests	130-092-677
		APC	100 tests	130-092-678
		Biotin	100 tests	130-092-906
		pure	100 µg in 1 mL	130-092-676
CD226 (DNAM-1)	DX11, mouse IgG1	PE	100 tests	130-092-476
		APC	100 tests	130-092-477
		Biotin	100 tests	130-092-478
		pure	100 µg in 1 mL	130-092-479
CD276	FM276, mouse IgG2b	FITC	100 tests	130-095-527
		PE	100 tests	130-095-525
		APC	100 tests	130-095-522
		Biotin	100 tests	130-095-514
CD314 (NKG2D)	BAT221, mouse IgG1	PE	100 tests	130-092-672
		APC	100 tests	130-092-673
		Biotin	100 tests	130-092-825
		pure	100 µg in 1 mL	130-092-686
CD335 (NKp46)	9E2, mouse IgG1	PE	100 tests	130-092-607
		APC	100 tests	130-092-609
		pure	100 µg in 1 mL	130-092-608
CD335 (NKp46) – functional grade	9E2, mouse IgG1	Biotin	100 µg in 1 mL	130-094-659
		pure	100 µg in 1 mL	130-094-271

Product	Clone, isotype	Conjugate	Capacity / Content	Order no.
CD336 (NKp44)	2.29, mouse IgG1	PE	100 tests	130-092-480
		APC	100 tests	130-092-481
		Biotin	100 tests	130-092-482
		pure	100 µg in 1 mL	130-092-556
CD337 (NKp30)	AF29-4D12, mouse IgG1	PE	100 tests	130-092-483
		APC	100 tests	130-092-484
		Biotin	100 tests	130-092-553
		pure	100 µg in 1 mL	130-092-554
CD337 (NKp30) – functional grade	AF29-4D12, mouse IgG1	pure	100 µg in 1 mL	130-094-272
Anti-IFN-γ	45-15, mouse IgG1	FITC	100 tests	130-091-641
		PE	100 tests	130-091-653
		APC	100 tests	130-091-640
Anti-IL-10	JES3-9D7, rat IgG1	PE	100 tests	130-096-043
		APC	100 tests	130-096-042
Anti-IL-12 (p35/70)	B-T21, mouse IgG1	PE	100 tests	130-093-432
		APC	100 tests	130-093-431
Anti-IL-12 (p40/p70)	8.6, mouse IgG1	PE	100 tests	130-092-774
		APC	100 tests	130-092-775
Anti-TNF-α	cA2, human IgG1	FITC	100 tests	130-091-650
		PE	100 tests	130-091-651
		APC	100 tests	130-091-649
IFN-γ Secretion Assay – Detection Kit		FITC	100 tests	130-090-433
		PE	100 tests	130-054-202
		APC	100 tests	130-090-762
IL-10 Secretion Assay – Detection Kit		PE	100 tests	130-090-434
		APC	100 tests	130-090-761

NK cell analysis · Antibodies · Mouse

Anti-NK1.1	PK136, mouse IgG2a	PE	100 tests	130-095-867
		APC	100 tests	130-095-869
		Biotin	100 tests	130-095-865
Anti-NKp46	29A1.4.9, rat IgG2a	FITC	100 tests	130-095-115
		PE	100 tests	130-095-116
		APC	100 tests	130-095-119
		Biotin	100 tests	130-095-117
		pure	100 µg in 1 mL	130-095-118
CD3ε	145-2C11, hamster IgG1	FITC	100 tests	130-092-962
		PE	100 tests	130-092-976
		APC	100 tests	130-092-977
CD3ε – functional grade	145-2C11, hamster IgG1	Biotin	100 µg in 1 mL	130-093-179
		pure	500 µg in 1 mL	130-092-973
CD4	GK1.5, rat IgG2b	FITC	100 tests	130-091-608
		PE	100 tests	130-091-607
		APC	100 tests	130-091-611
CD8a	53-6.7, rat IgG2a	VioBlue	100 tests	130-094-360
		FITC	100 tests	130-091-605
		PE	100 tests	130-091-603
		APC	100 tests	130-091-606

Product	Clone, isotype	Conjugate	Capacity / Content	Order no.
CD11b	M1/70.15.11.5, rat IgG2b	FITC	100 tests	130-081-201
		PE	100 tests	130-091-240
		APC	100 tests	130-091-241
CD11c	N418, hamster IgG	FITC	100 tests	130-091-842
		PE	100 tests	130-091-830
		APC	100 tests	130-091-844
CD16/32	93, rat IgG2a	PE	100 tests	130-092-572
		APC	100 tests	130-092-573
		Biotin	100 tests	130-092-570
		pure	100 µg in 1 mL	130-092-574
CD28	37.51, hamster IgG2	PE	100 tests	130-093-180
		Biotin	100 tests	130-093-181
CD28 – functional grade	37.51, hamster IgG2	Biotin	100 µg in 1 mL	130-093-183
		pure	100 µg in 1 mL	130-093-182
CD45	30F11, rat IgG2a	FITC	100 tests	130-091-609
		PE	100 tests	130-091-610
		APC	100 tests	130-091-811
		VioBlue	100 tests	130-092-910
CD49b (DX5)	DX5, rat IgM	FITC	100 tests	130-091-814
		PE	100 tests	130-091-816
		APC	100 tests	130-091-813
CD49d	R1-2, rat IgG2b	VioBlue	100 tests	130-096-321
		FITC	100 tests	130-096-324
		PE	100 tests	130-096-318
		APC	100 tests	130-096-330
		Biotin	100 tests	130-096-322
CD62L	MEL14-H2.100, rat IgG2a	FITC	100 tests	130-091-792
		PE	100 tests	130-091-794
		APC	100 tests	130-091-805
CD146 (LSEC)	ME-9F1, rat IgG2a	FITC	100 tests	130-092-026
		Biotin	100 tests	130-092-025
Anti-IFN-γ	AN18.17.24, rat IgG	PE	100 tests	130-092-346
		APC	100 tests	130-092-347
Anti-TNF-α	MP6-XT22, rat IgG1	FITC	100 tests	130-092-244
		PE	100 tests	130-092-245
		APC	100 tests	130-092-246
IFN-γ Secretion Assay – Detection Kit		PE	100 tests	130-090-516
		APC	100 tests	130-090-984

NK cell analysis · Indirect staining

Anti-Biotin	Bio3-18E7, mouse IgG1	VioBlue	100 tests	130-094-669
		FITC	100 tests	130-090-857
		PE	100 tests	130-090-756
		APC	100 tests	130-090-856
		PerCP	100 tests	130-094-974

For a complete list of MACS Antibodies refer to www.miltenyibiotec.com/antibodies.

Product	Capacity / Content	Order no.
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NK cell analysis · Genotyping and mRNA expression profiling

KIR Typing Kit, human	8 tests	130-092-551
	24 tests	130-092-584

NK cell separation · Human

Anti-iNKT MicroBeads	2×10 ⁹ total cells	130-094-842
CD56 MicroBeads	10 ⁹ total cells	130-050-401
CD56 MultiSort Kit	10 ⁹ total cells	130-055-401
Whole Blood CD56 MicroBeads	10 ⁹ total cells	130-090-875
NK Cell Isolation Kit	10 ⁹ total cells	130-092-657
CD56 ⁺ CD16 ⁻ NK Cell Isolation Kit	2×10 ⁹ total cells	130-092-661
CD56 ⁺ CD16 ⁺ NK Cell Isolation Kit	2×10 ⁹ total cells	130-092-660
CD56 ⁺ CD8 ^{+/-} NK Cell Isolation Kit	2×10 ⁹ total cells	130-092-659
CD3 ⁺ CD56 ⁺ NKT Cell Isolation Kit	2×10 ⁹ total cells	130-093-064
CD3 MicroBeads	10 ⁹ total cells	130-050-101
CD4 MicroBeads	10 ⁹ total cells	130-045-101
CD8 MicroBeads	10 ⁹ total cells	130-045-201
CD16 MicroBeads	2×10 ⁹ total cells	130-045-701
CD57 MicroBeads	10 ⁹ total cells	130-092-073

NK cell separation · Mouse and non-human primate cells

Anti-NK (DX5) MicroBeads, mouse	2×10 ⁹ total cells	130-052-501
Anti-NKp46 MicroBead Kit, mouse	10 ⁹ total cells	130-095-390
NK Cell Isolation Kit, mouse	10 ⁹ total cells	130-090-864
CD16 MicroBeads, non-human primate	10 ⁹ total cells	130-091-145

Indirect separation / other

Anti-Biotin MicroBeads	10 ⁹ total cells	130-090-485
Anti-PE MicroBeads	10 ⁹ total cells	130-048-801
Anti-FITC MicroBeads	10 ⁹ total cells	130-048-701
Anti-APC MicroBeads	10 ⁹ total cells	130-090-855
One-step Antibody Biotinylation Kit	8 reactions	130-093-385

Product	Description	Capacity / Content	Order no.
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Molecular analysis

μMACS mRNA Isolation Kit – Small Scale	mRNA isolation from cells, tissue, and blood	for 20 isolations	130-075-201
μMACS mRNA Isolation Kit – For Total RNA	mRNA isolation from total RNA	for 8 isolations	130-075-102
μMACS One-step cDNA Kit	Pure first strand cDNA synthesis directly from cells or tissues in a one-step in-column procedure	for 20 reactions	130-091-902

Genomic services

Gene expression profiling	For more information refer to www.miltenyibiotec.com/genomicservices .		
miRNA expression profiling	For more information refer to www.miltenyibiotec.com/genomicservices .		
Array CGH profiling	For more information refer to www.miltenyibiotec.com/genomicservices .		

NK cell expansion · Human

NK Cell Activation/Expansion Kit, human			130-094-483
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NK cell culture · Human

Human IL-2, research grade	5 μg	130-093-901
	50 μg	130-093-903
Human IL-2 (v126), research grade	5 μg	130-093-906
	50 μg	130-093-907
	1000 μg	130-094-622
MACS GMP Recombinant Human IL-2	20 μg	170-076-113
Human IL-3, research grade	10 μg	130-093-908
	25 μg	130-093-909
	4×25 μg	130-094-193
Human IL-3, premium grade	10 μg	130-095-071
	25 μg	130-095-070
	100 μg	130-095-069
	1000 μg	130-095-068
Human IL-7, research grade	10 μg	130-093-937
	25 μg	130-095-367
	100 μg	130-093-939
Human IL-7, premium grade	10 μg	130-095-361
	25 μg	130-095-362
	100 μg	130-095-363
	1000 μg	130-095-364
Human IL-12, research grade	2 μg	130-093-951
	10 μg	130-093-952
	100 μg	130-094-624
Human IL-15, research grade	10 μg	130-093-955
	25 μg	130-095-760
Human IFN-γ, research grade	50 μg	130-093-880
	100 μg	130-093-882
	1000 μg	130-093-883
Human GM-CSF, research grade	10 μg	130-093-862
	50 μg	130-095-372

Product	Capacity / Content	Order no.
Human GM-CSF, premium grade	10 µg	130-093-864
	50 µg	130-093-865
	100 µg	130-093-866
	500 µg	130-093-867
	1000 µg	130-093-868
Human SCF, research grade	2 µg	130-093-990
	10 µg	130-093-991
	50 µg	130-093-992
	100 µg	130-093-993
	1000 µg	130-094-303
Human TRAIL, research grade	10 µg	130-094-025
	50 µg	130-094-026
Human Flt3-Ligand, research grade	2 µg	130-093-853
	10 µg	130-093-854
	100 µg	130-093-855
	1000 µg	130-093-856

NK cell culture • Mouse

Mouse IFN-γ	20 µg	130-094-047
	100 µg	130-094-048
	1000 µg	130-094-049
Mouse IL-2	5 µg	130-094-054
	20 µg	130-094-055
Mouse IL-3	2 µg	130-094-056
	10 µg	130-094-057
	100 µg	130-094-633
	1000 µg	130-094-661
Mouse IL-7	2 µg	130-094-636
	10 µg	130-094-066
Mouse IL-15	2 µg	130-094-071
	10 µg	130-094-072
	100 µg	130-094-640
Mouse IFN-α	200 µL, liquid	130-093-131
	1 mL, liquid	130-093-130
Mouse IP-10	5 µg	130-094-073
	25 µg	130-094-641
Mouse M-CSF	2 µg	130-094-642
	10 µg	130-094-129
	100 µg	130-094-643
	1000 µg	130-094-810
Mouse MIG	5 µg	130-094-644
	20 µg	130-094-128
Mouse SCF	2 µg	130-094-078
	10 µg	130-094-079
	100 µg	130-094-080
	1000 µg	130-094-902
Mouse Flt3-Ligand	10 µg	130-094-038

Product	Capacity / Content	Order no.
Mouse VEGF (164 aa)	5 µg	130-094-086
	10 µg	130-094-088
Mouse G-CSF	2 µg	130-094-039
	10 µg	130-094-040
	100 µg	130-094-041
Mouse GM-CSF	10 µg	130-094-043
	25 µg	130-095-746
Mouse GM-CSF, premium grade	10 µg	130-095-742
	25 µg	130-095-793
	100 µg	130-095-739
	1000 µg	130-095-735

For a complete list of MACS Cytokines refer to www.miltenyibiotec.com/cytokines.



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MACS GMP Cytokines are for research use and *ex vivo* cell culture processing only, and are not intended for human *in vivo* applications.

The products are manufactured and tested under a certified ISO 9001 quality system and in compliance with relevant GMP guidelines.

They are designed following the recommendations of USP chapter <1043> on ancillary materials.

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