

## PRODUCT INFORMATION SHEET

### Monoclonal antibodies detecting human antigens

#### CD314 / NKG2D

PURE	<span style="border: 1px solid black; padding: 0 2px;">RUO</span>	<span style="border: 1px solid black; padding: 0 2px;">REF</span>	IQP-624P	▽ 100 test
FITC	<span style="border: 1px solid black; padding: 0 2px;">RUO</span>	<span style="border: 1px solid black; padding: 0 2px;">REF</span>	IQP-624F	▽ 100 test
R-PE	<span style="border: 1px solid black; padding: 0 2px;">RUO</span>	<span style="border: 1px solid black; padding: 0 2px;">REF</span>	IQP-624R	▽ 100 test
APC	<span style="border: 1px solid black; padding: 0 2px;">RUO</span>	<span style="border: 1px solid black; padding: 0 2px;">REF</span>	IQP-624A	▽ 100 test

RUO **For Research Use Only**



#### Description

**Clone** 1D11

**Isotype** Murine IgG1

**Specificity** The mouse monoclonal antibody 1D11 recognizes CD314 / NKG2D, a 42 kDa C-type lectin-like activating receptor expressed by NK cells, gamma/delta T cells, and CD8+ T cells.

**Species** Human

**Immunogen** Natural killer cell line

**Summary** CD314, also known as NKG2D (natural killer receptor G2D) or KLRK1 (killer cell lectin-like receptor subfamily K, member 1), is a homodimeric C-type lectin-like activating receptor and costimulator with type II membrane orientation (C terminus extracellular). CD314 homodimers are associated with DAP10, a membrane adaptor protein that signals similar to CD28 by recruitment of phosphatidylinositol 3-kinase. Engagement of CD314 amplifies antigen-specific T cell responses in CD314-positive T cell populations. In NK cells, CD314 is a primary activating receptor. As CD314 ligands the MHC class-I chain-related proteins A and B (MICA, MICB) and UL16-binding proteins (ULBPs) have been identified.

**Applications** FC, IP, IHC(F), FUNC. Determining optimal working dilutions by titration test.

#### Limitations

1. Conjugates with brighter fluorochromes, like PE and APC, will have a greater separation than those with dyes like FITC and CyQ. When populations overlap, the percentage of positive cells using a selected marker can be affected by the choice of fluorescent label.
2. Use of monoclonal antibodies in patient treatment can interfere with antigen target recognition by this reagent. This should be taken into account when samples are analyzed from patients treated in this fashion. IQ Products has not characterized the effect of the presence of therapeutic antibodies on the performance of this reagent.
3. Reagents can be used in different combinations, therefore laboratories need to become familiar performance characteristics of each antibody in relation with the combined markers in normal and abnormal samples.
4. Reagent performance can be affected by the use of anticoagulants.



#### Handling and Storage

Antibodies are supplied in phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4. Store the vials at 2-8°C. Monoclonal antibodies should be protected from prolonged exposure to light when conjugated with fluorochromes. Reagents are stable for the period shown on the vial label when stored properly.

#### Warranty

Products sold hereunder are warranted only to conform to the quantity and contents stated on the label at the time of delivery to the customer. There are no warranties, expressed or implied, which extend beyond the description on the label of the product. IQ Products is not liable for property damage, personal injury, or economic loss caused by the product.

## Characterization

To ensure consistently high-quality reagents, each batch of monoclonal antibody is tested for conformance with characteristics of a standard reagent.












## Warning

All products contain sodiumazide. This chemical is poisonous and hazardous. Handling should be done by trained staff only.

## References

1. Bauer S, Groh V, Wu J, Steinle A, Phillips JH, Lanier LL, Spies T: Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. Science. 1999 Jul 30;285(5428):727-9.
2. Wu J, Cherwinski H, Spies T, Phillips JH, Lanier LL: DAP10 and DAP12 form distinct, but functionally cooperative, receptor complexes in natural killer cells. J Exp Med. 2000 Oct 2;192(7):1059-68.
3. Wu J, Groh V, Spies T: T cell antigen receptor engagement and specificity in the recognition of stress-inducible MHC class I-related chains by human epithelial gamma delta T cells. J Immunol. 2002 Aug 1;169(3):1236-40.
4. Sangiolo D, Martinuzzi E, Todorovic M, Vitaggio K, Vallario A, Jordaney N, Carnevale-Schianca F, Capaldi A, Geuna M, Casorzo L, Nash RA, Aglietta M, Cignetti A: Alloreactivity and anti-tumor activity segregate within two distinct subsets of cytokine-induced killer (CIK) cells: implications for their infusion across major HLA barriers. Int Immunol. 2008 Jul;20(7):841-8.
5. Hasenkamp J, Borgerding A, Uhrberg M, Falk C, Chapuy B, Wulf G, Jung W, Trümper L, Glass B: Self-tolerance of human natural killer cells lacking self-HLA- specific inhibitory receptors. Scand J Immunol. 2008 Mar;67(3):218-29.
6. Ebert LM, Meuter S, Moser B: Homing and function of human skin gammadelta T cells and NK cells: relevance for tumor surveillance. J Immunol. 2006 Apr 1;176(7):4331-6.
7. Valencia J, Hernández-López C, Martínez VG, Hidalgo L, Zapata AG, Vicente A, Varas A, Sacedón R: Transient beta-catenin stabilization modifies lineage output from human thymic CD34+CD1a- progenitors. J Leukoc Biol. 2010 Mar;87(3):405-14.

## Explanation of used symbols

	Consult instructions for use
	Catalogue number
	Sufficient for
	Caution, consult accompanying document
	Keep away from (sun)light
	Biological risks
	Temperature limitation (°C)
	For Research Use Only
	Batch code
	Use by yyyy-mm-dd
	Manufacturer

		<b>Label - tandem</b>	<b>Ex -max (nm)</b>	<b>Em -max (nm)</b>
P	PURE	purified material	-	-
F	FITC	FITC	488	519
R	R-PE	PE	488, 532	578
C	CyQ	PE-Cy5.18	488, 532	667
A	APC		595, 633, 635, 647	660
PC	PerCP		488, 532	678
PCC	PerCP-Cy5.5		488, 532	695



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