Anti-CD112R / DIA-R12
Mouse monoclonal anti-T cell marker (Immune checkpoint protein) Clone R12

Product Information

Catalog No.:	**DIA-R12** (100µl)
Clone:	R12
Isotype:	Mouse IgG1/k
Specificity:	CD112R
Immunogen:	Recombinant peptide
Physical State:	Lyophilized powder
Species Reactivity:	Human
Positive Control:	Tonsil
Visualization:	Membranous

Reconstitution:	DIA-R12, restore to 100 µl Reconstitute with sterile distilled water by gentle shaking for 10 minutes
Presentation:	In PBS with 2% BSA, 0.05% NaN3, pH 7.4. Antibody purified from culture supernatant
Applications:	Immunohistochemistry (IHC), standard formalin-fixed paraffin sections
Dilutions:	1:100 - 1:200 IHC-P (General recommendation, validation of antibody performance/protocol is the responsibility of the end user. Positive/negative controls should be run simultaneously with patient specimen. Interpretation must be made by a qualified pathologist within the context of patient's clinical history/other diagnostic tests.)
Associated Antibodies:	anti-CD8, clone TC8, DIA-TC8 anti-TIGIT, clone TG1, DIA-TG1

Reactivity

Anti-PVRIG/CD112R clone R12 has been developed for detection of CD112R in routine formalin-fixed paraffin-embedded tissue specimen (IHC FFPE) to be used in bright field immunohistochemistry and moreover for multicolor immunofluorescence (fluorescence multiplex IHC). Anti-PVRIG/CD112R clone R12 has been validated for sensitivity and specificity on large quantities of normal and tumor tissues. Clone R12 displays no background in non lymphoid cells and in epithelial cells. Based on the high specificity combined with an inherent high signal to noise ratio clone R12 is ideally suited for multiplexed immunohistochemistry studies of CD112R in human tissue specimen.

CD112R, a member of poliovirus receptor–like proteins, is preferentially expressed on T-cells and inhibits T-cell receptor mediated signals. Blockade of the CD112R-CD112 interaction enhances T cell response. CD112R binds to its ligand CD112 which is widely expressed on antigen-presenting cells and on tumor cells. CD112R competes with CD226 to bind to CD112 and thereby acts as a coinhibitory receptor for T cells. Blockage of the CD112R–CD112 interaction enhances human T cell response.

TIGIT and CD226 constitute a T cell cosignaling pathway in which CD226 and TIGIT, respectively, serve as costimulatory and coinhibitory receptors for the ligands CD155 and CD112. This TIGIT signaling axis includes a complex receptor ligand system with the marker CD112R, which has become a promising target in cancer immuno-therapy.

Instructions for Use

Immunohistochemical staining of standard formalin-fixed paraffin sections

Deparaffinize and rehydrate according to standard procedures. Heat induced epitope retrieval (HIER) is required. Pretreatment in an autoclave at 121°C (5min) is recommended (Tris-EDTA-citrate, pH 7.8, e.g. TEC-buffer). Incubate primary antibody for 60 min at 37°C. Antibody can be used with biotin/(strept)avidin-based detection techniques (e.g. Vectastain® Elite® ABC-HRP-kit/AEC). For a polymer-based detection technique (e.g. Dako EnVision™ detection system, Peroxidase/DAB) use the antibody at 1:100-200 dilution. The antibody is suited for immuno-histochemical staining using automated platforms.

Storage and Stability

Store the lyophilized antibody at 2-8°C. For long term storage freeze at -20°C, thus the antibody is stable for at least one year. As reconstituted liquid store at 2-8°C short term (several weeks). Avoid repeated freeze / thaw cycles.

Safety Notes

The material contains 0.05% sodium azide as preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material. Avoid skin and eye contact, inhalation and ingestion.

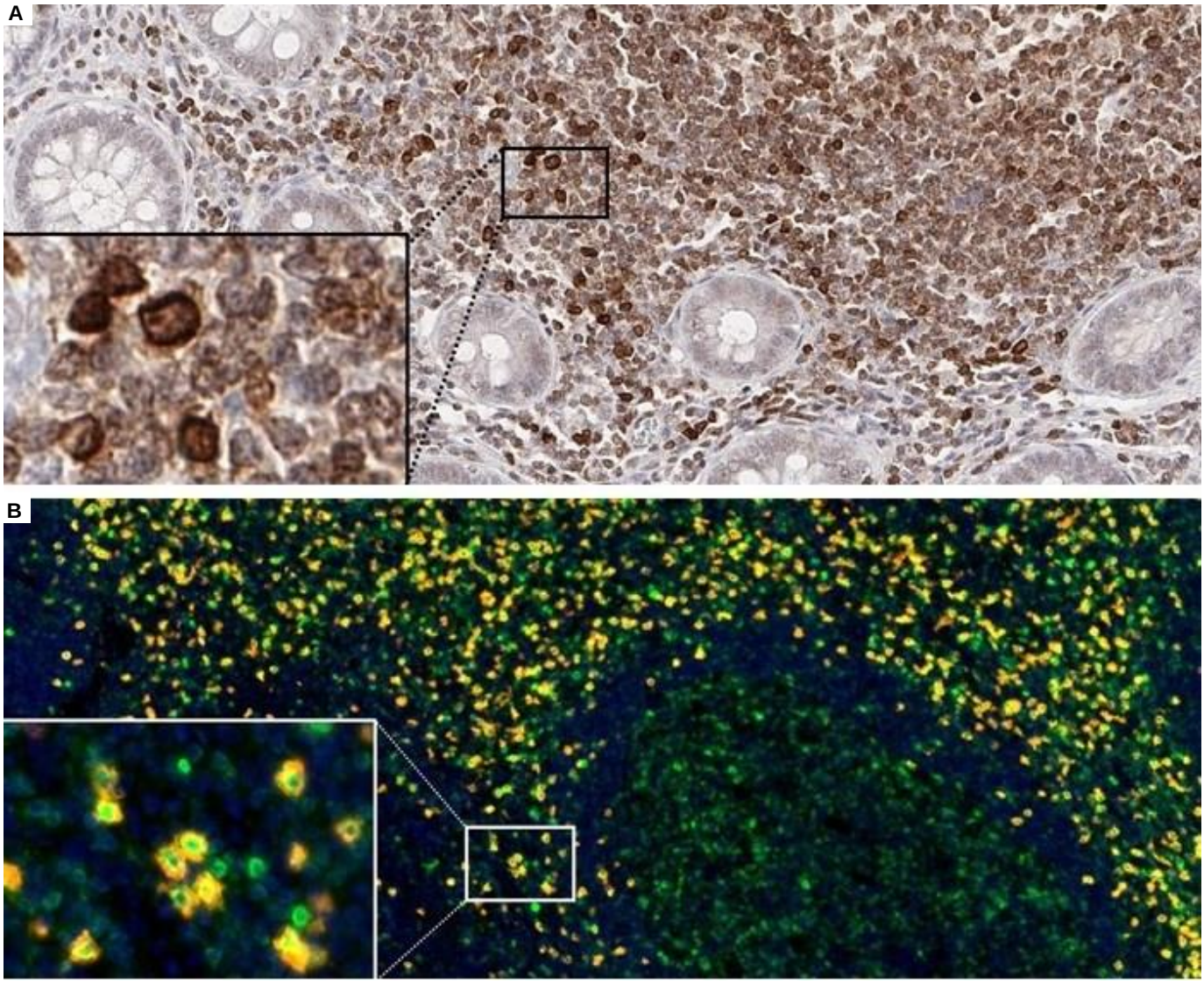
ONCOdianova GmbH
Warburgstrasse 45
D-20354 Hamburg
Germany

URL: www.oncodianova.com
Email: info@oncodianova.com
Phone: +49 (0)40 - 45067 - 0
Fax +49 (0)40 - 45067 - 490

Figures

Immunohistochemistry of human CD112R in routine formalin-fixed paraffin-embedded tissue samples

A: Normal human tonsil with numerous CD112R/PVRIG-positive lymphocytes.
B: Multiplex immunohistochemistry of a normal human tonsil with anti-CD8 (DIA-TC8 / red) and anti-CD112R (DIA-R12 / green)



(pictures courtesy of Prof. Guido Sauter, Department of Pathology, University Hospital Eppendorf, Hamburg, Germany)

General references

1. Zhu Y et al. Identification of CD112R as a novel checkpoint for human T cells. J Exp Med. 2016, 213(2): 167–176. doi: 10.1084/jem.20150785
2. Stamm H, Wellbrock J, Fiedler W. Interaction of PVR/PVRL2 with TIGIT/DNAM-1 as a novel immune checkpoint axis and therapeutic target in cancer. Mamm Genome. 2018, 29(11-12):694-702. doi: 10.1007/s00335-018-9770-7. Review.
3. Xu F et al. Blockade of CD112R and TIGIT signaling sensitizes human natural killer cell functions. Cancer Immunol Immunother. 2017, 66(10):1367-1375. doi: 10.1007/s00262-017-2031-x.
4. Whelan S et al. PVRIG and PVRL2 Are Induced in Cancer and Inhibit CD8+ T-cell Function. Cancer Immunol Res. 2019, 7(2):257-268. doi: 10.1158/2326-6066.CIR-18-0442.
5. Sanchez-Correa B et al. DNAM-1 and the TIGIT/PVRIG/TACTILE Axis: Novel Immune Checkpoints for Natural Killer Cell-Based Cancer Immunotherapy. Cancers (Basel). 2019, 11(6). pii: E877. doi: 10.3390/cancers11060877. Review.

ONCOdianova GmbH
Warburgstrasse 45
D-20354 Hamburg
Germany

URL: www.oncodianova.com
Email: info@oncodianova.com
Phone: +49 (0)40 - 45067 - 0
Fax +49 (0)40 - 45067 - 490