

## OX40/CD134

Concentrated and Prediluted Rabbit Monoclonal Antibody  
902-3245-101320

**BIOCARE**  
M E D I C A L

Available Product Formats				
Format	Catalog Number	Description	Dilution	Diluent
Concentrate	ACR 3245 A, C	0.1, 1.0 mL	1:100	Renoir Red
Predilute	APR 3245 AA	6.0 mL	Ready-to-use	N/A
UltraLine – For BenchMark	AVR 3245 G	6.0 mL	Ready-to-use	N/A

### Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

### Summary and Explanation:

The OX40 receptor, also known as CD134, is a tumor necrosis superfamily receptor (TNSFR4) that is recognized as a costimulatory receptor for T cells. OX40 is predominantly expressed on activated CD4 T cells. OX40 has been shown to be essential for the regulation, differentiation, and survival of conventional CD4 and CD8 T cells (1). Multiple studies have demonstrated that activation of the OX40 receptor via ligand or agonist (antibody) binding enhances T cell-mediated anti-tumor immunity (2-4).

Based on its critical co-stimulatory role in T-cell based anti-tumor immunity, OX40 has been identified as a promising therapeutic target in late stage cancers. Additional studies have suggested the utility of combination therapies involving OX40 activation in conjunction with CTLA-4 or PD-1 suppression: enabling the proliferation of T-cells while removing the suppressive action of "immune checkpoint inhibitors" (3,4).

### Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be applied. A one-step procedure will feature an enzyme labeled polymer that binds the primary antibody. A two-step procedure will feature a linker antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

**Source:** Rabbit monoclonal

**Species Reactivity:** Human; others not tested

**Clone:** EPR23001-88

**Isotype:** IgG

**Protein Concentration:** Call for lot specific Ig concentration.

**Epitope/Antigen:** OX40/CD134

**Cellular Localization:** Tonsil

**Positive Tissue Control:** Membrane

### Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

### Storage and Stability:

Store at 2°C to 8°C. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

### Staining Protocol Recommendations (intelliPATH FLX® and manual use):

**Peroxide Block:** Block for 5 minutes with Peroxidase 1.

**Pretreatment:** Perform heat retrieval using Borg Decloaker. Refer to the Borg Decloaker product data sheet for specific instructions.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Background Punisher.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Probe:** N/A

**Polymer:** Incubate for 30 minutes at RT with a tertiary polymer.

### Staining Protocol Recommendations (intelliPATH FLX and manual use) Cont'd:

**Chromogen:** Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Warp Red.

**Counterstain:** Counterstain with hematoxylin. Rinse with deionized water. Apply Tachs's Bluing Solution for 1 minute. Rinse with deionized water.

### Technical Note:

This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS for washing steps.

### Staining Protocol Recommendations (Ventana BenchMark ULTRA):

AVR3245 is intended for use with the BenchMark ULTRA. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

**Template/Detection:** OptiView DAB IHC

**Pretreatment Protocol:** CC1 64 minutes

**Peroxidase:** Pre Primary Peroxidase

**Primary Antibody:** 60 minutes, 36°C

### Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

### Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (5)

2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come into contact with sensitive areas, wash with copious amounts of water. (6)

3. Microbial contamination of reagents may result in an increase in nonspecific staining.

4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.

5. Do not use reagent after the expiration date printed on the vial.

6. The SDS is available upon request and is located at <http://biocare.net>.

### Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

### References:

1. Toennies HM, *et al.* Expression of CD30 and Ox40 on T lymphocyte subsets is controlled by distinct regulatory mechanisms. *J Leukoc Biol.* 2004 Feb;75(2):350-7.



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### References Cont'd:

2. Curti BD, *et al.* OX40 is a potent immune-stimulating target in late-stage cancer patients. *Cancer Res.* 2013 Dec 15; 73(24):7189-98.
3. Linch SN, *et al.* OX40 Agonists and Combination Immunotherapy: Putting the Pedal to the Metal. *Front Oncol.* 2015; 5:34.
4. Jeong S, Park SH. Co-Stimulatory Receptors in Cancers and Their Implications for Cancer Immunotherapy. *Immune Netw.* 2020 Feb; 20(1):e3.
5. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
6. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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