

## DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                                                                                   |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human OX40/TNFRSF4 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse OX40 is observed. |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                                                                                    |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                                                               |
| <b>Immunogen</b>                                                                                                                                                                                        | Mouse myeloma cell line NS0-derived recombinant human OX40<br>Leu29-Ala216<br>Accession # P43489                                                        |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                                         |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                                                            |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                                                                         |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>CyTOF-ready</b>          | Optimal dilution of this antibody should be experimentally determined. |
| <b>Neutralization</b>       | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Flow Cytometry</b>       | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

OX40 (CD134; TNFRSF4) is a T cell costimulatory molecule of the TNF receptor superfamily that coordinates with other membrane-bound costimulators such as CD28, CD40, CD30, CD27 and 4-1BB (1-3). OX40 is expressed on naïve CD4<sup>+</sup> T cells only after engagement of the TCR by antigen presenting cells (APC; dendritic and B cells), and costimulation by CD40/CD40 ligand and CD28/B7. It is maximal at 2-5 days post activation, or 4 hours post reactivation of memory T cells (3-6). Human OX40 is a 48 kDa type I transmembrane glycoprotein with a 28 amino acid (aa) signal sequence, a 185 aa extracellular domain (ECD) that has four TNFR-Cys repeats and an O-glycosylated hinge region, a 20 aa transmembrane segment, and a 41 aa cytoplasmic domain (3). The ECD of human OX40 shows 71%, 68%, 67%, 64% and 64% aa identity with feline, canine, rabbit, mouse and rat OX40 ECD, respectively. Engagement of OX40 on activated CD4<sup>+</sup> T cells by OX40 ligand on activated dendritic cells promotes T cell survival and proliferation, prolongs the immune response, and enhances the number of cells making the transition from effector to memory T cells (1-6). OX40 signal transduction includes binding TNF receptor-associated factors (TRAFs), and activating NFκB and PI3 kinase to enhance expression of cytokines, antiapoptotic Bcl-2 family members, survivin and the chemokine receptor CXCR5 (5-8). CXCR5 promotes T cell migration to germinal centers to deliver B cell help (5). Studies using knockout or transgenic mice, and agonistic or blocking antibodies, show that OX40/OX40L interaction is critical for establishing or reactivating memory T cells and breaking immune tolerance (9). Blockade of OX40 engagement is efficacious in animal models of allergic airway inflammation, graft-versus-host disease and autoimmune disease (10-14).

## PRODUCT SPECIFIC NOTICES

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