Human OX40/TNFRSF4
Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 977974

Catalog Number: FAB10543R

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human OX40/TNFRSF4 in direct ELISAs
Source	Monoclonal Mouse IgG_{2B} Clone # 977974
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human OX40/TNFRSF4 Leu29-Ala216 Accession # P43489
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	HEK293 Human Cell Line Transfected with Human OX40/TNFRSF4 and eGFP

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**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 co-stimulatory molecule of the TNF receptor superfamily that coordinates with other membrane-bound co-stimulators such as CD28, CD40, CD30, CD27 and 4-1BB (1-3). OX40 is expressed on naïve $CD4^+$ T cells only after engagement of the TCR by antigen presenting cells (APC; dendritic and B cells), and co-stimulation 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 $CD4^+$ 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).

References:

1. Salek-Ardakani, S. and M. Croft (2006) Vaccine **24**:872.
2. Hori, T. (2006) Int. J. Hematol. **83**:17.
3. Latza, U. *et al.* (1994) Eur. J. Immunol. **24**:677.
4. Murata, K. *et al.* (2000) J. Exp. Med. **191**:365.
5. Fillatreau, S and D. Gray (2003) J. Exp. Med. **197**:195.
6. Gramaglia, I. *et al.* (1998) J. Immunol. **161**:6510.
7. Rogers, P.R. *et al.* (2001) Immunity **15**:445.
8. Song, J. *et al.* (2005) Immunity **22**:621.
9. Bansal-Pakala, P. *et al.* (2001) Nat. Med. **7**:907.
10. Salek-Ardakani, S. *et al.* (2003) J. Exp. Med. **198**:315.
11. Jember, A. G. *et al.* (2001) J. Exp. Med. **193**:387.
12. Demirci, G. *et al.* (2004) J. Immunol. **172**:1691.
13. Blazar, B.R. *et al.* (2003) Blood **101**:3741.
14. Higgins, L.M. *et al.* (1999) J. Immunol. **162**:486.

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