Anti-CD25 [7D4] VivopureX 10 mg Ab02216-2.0-VXL

This chimeric mouse antibody was made using the variable domain sequences of the original Rat IgM format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Mouse IgG2a, Kappa
Clone Number: 7D4
Alternative Name(s) of Target: IL-2-RA; Interleukin-2 receptor subunit alpha; IL-2 receptor subunit alpha; IL-2R subunit alpha; IL2-RA; p55
UniProt Accession Number of Target Protein: P01590
Published Application(s): depleting, FC
Published Species Reactivity: Mouse
Immunogen: The original rat IgM version of this antibody was raised by immunizing Lewis rats with HT2 cells in complete Freund's adjuvant via a intraperitoneal injection and subsequent generation of hybridomas.
Specificity: 7D4 recognizes mouse CD25 at an epitope comprising amino acid 184 to 194 (REHHRFLASEE). This epitope is distinct from the IL-2 binding site and does not block binding of IL-2 to CD25. Murine CD25 is a 55 kDa interleukin-2 receptor alpha chain (IL-2R alpha). CD25 is expressed by early progenitors of the T and B lineage as well as by activated mature T and B lymphocytes. By itself, CD25 binds IL-2 only with low affinity. However, CD25 associates with CD122 (IL-2 receptor beta chain) and CD132 (common gamma chain) to form the high affinity IL-2 receptor.
Application Notes: 7D4 is a non-IL-2 blocking anti-CD25 antibody that has been widely used to identify CD25-positive cells via flow cytometry (Kohyama et al., 2012; pmid: 22399592), for instance, to analyse Lymph node cells from BALB/c mice that were untreated or treated with 0.25 mg PC61 (Onizuka et al., 1999; pmid: 10397255) or to characterize brain-infiltrating immune cells (Maes et al., 2013). Although 7D4 does not inhibit IL-2 binding itself, it shows synergistic qualities with a cancer vaccine; namely, 7D4 with a cancer vaccine boosted the vaccine-induced anti-tumour response. Furthermore, this antibody was shown to be able to induce inactivation of regulatory T cells (Treg); the effect was particularly significant when this clone was used synergistically with another anti-CD25 clone - PC61 (Ab01107) (Kohm et al., 2006; pmid: 16517695; McNeill et al., 2007; pmid: 17212768). 7D4, when turned into a mouse IgG2a format, exhibits depleting qualities against Treg cells and can be used to remove Treg lymphocytes from the tumoral environment without blocking CD25 (IL-2 pathway) on T effector cells (Solomon et al., 2020). As a result, it can be utilized as a potential immunotherapy agent achieving Treg depletion without T effector cells'

debilitation (Solomon et al., 2020). Finally, it was demonstrated that such anti-CD25 non-IL-2 blocking antibodies are successful agents in promoting effector activation and leading to strong antitumor activity (Solomon et al., 2020).

Antibody First Published in: Malek et al. Identification and initial characterization of a rat monoclonal antibody reactive with the murine interleukin 2 receptor-ligand complex Proc Natl Acad Sci U S A. 1983 Sep;80(18):5694-8. doi: 10.1073/pnas.80.18.5694. PMID:6412230

Note on publication: Describes the generation and characterization of the antibody 7D4.

Product Form

Size: 10 mg VivopureX products are produced at high purity (>98%), low endotoxin (<0.5 EU/mg) and are formulated without preservatives. These antibodies are chimerized to have an Fc domain matching their target species to reduce immunogenicity and give you the optimal effector function for your experiment. As a result VivopureX products are the ideal choice for in vivo research applications.

Purification: Protein A affinity purified

Supplied In: PBS only.

Storage Recommendation: All VivopureX products are formulated in PBS only without addition of preservatives. To ensure optimal storage and prevent microbial contamination, only open and dispense under sterile conditions.

Concentration: >=1mg (see vial label for exact conc)

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.