

Anti-CTLA-4 [9H10] Standard Size Ab00894-1.32

This antibody has a D265A mutation affecting Fc receptor engagement.

This chimeric mouse antibody was made using the variable domain sequences of the original Hamster IgG2 format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Mouse IgG1-D265A, Fc Silenced, Kappa

Clone Number: 9H10

Alternative Name(s) of Target: CD152; CTLA4; cytotoxic T-lymphocyte-associated antigen 4; Cytotoxic T-lymphocyte protein 4;

UniProt Accession Number of Target Protein: P09793

Published Application(s): Neutralisation, proliferation assays, WB, ELISA, FC

Published Species Reactivity: Mouse

Immunogen: This antibody was raised by immunising Syrian hamsters with Staphylococcus A bacteria coated in CTLA-4, isolating B cells from the immunised hamsters and fusing these with the P3X3.Ag8.653 myeloma line to produce stable hybridomas.

Specificity: This antibody is specific for murine CTLA-4, an inhibitory receptor that acts as the primary negative regulator of T-cell responses. CTLA-4 is expressed predominantly by activated T cells, with significantly higher levels of expression on CD8+ T cells than CD4+ T cells.

Application Notes: CTLA-4 is upregulated on T cells following their activation, and acts as a negative regulator of T cell responses; CTLA-4 binds to the B7 molecules CD80 and 86, resulting in the delivery of an inhibitory signal, and consequent downregulation of T cell-mediated immunity. Administration of 9H10 blocks the interaction between CTLA-4 on the T cell surface and CD80 and CD86. This promotes the activation of effector T cells and stimulates the immune response raised against weak antigens, including tumour antigens. While this antibody alone does not enhance T cell proliferation, it does significantly increase T cell proliferation when administered together with anti-CD28 (clone 37.51) (Krummel & Allison, 1995), anti-OX40 and anti-GITR (Houot & Levy, 2009). Blocking CTLA-4 induces T cell anti-tumour immunity in animal models, both by suppressing regulatory T cell activity and directly promoting CD8+ T cell effector function (Peggs et al, 2009). In transgenic murine models of prostate cancer, the use of a CTLA-4 blockade in conjunction with an irradiated tumour cell vaccine stimulates an immune response against primary tumours, and results in a significant reduction in tumour incidence (Hurwitz et al, 2000). Similarly, in murine melanoma models, CTLA-4 blockage, in combination with CD40 stimulation and adenoviral vaccination, can elicit complete regression (Sorensen et al, 2010). In murine models of pancreatic ductal

adenocarcinoma, 9H10 has also been shown to induce T cell-dependent tumour regressions (Vonderheide et al, 2015). Priming the T cell response with CD40 mAbs or chemotherapy reversed the resistance to 9H10 and RMP1-14 observed in well-established tumours. Additionally, this antibody has been used to detect CTLA-4 using ELISA (Krummel & Allison, 1995) and to stain CTLA-4-expressing cells (Deeths et al, 1999).

Antibody First Published in: Krummel & Allison CD28 and CTLA-4 Have Opposing Effects on the Response of T cells to Stimulation J Exp Med. 1995 Aug 1; 182(2): 459–465. [PMID:7543139](#)

Note on publication: Describes the original generation and characterisation of this antibody.

Product Form

Size: 200 µg Purified antibody.

Purification: Protein A affinity purified

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

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