

Rabbit Polyclonal Anti-CTLA4 antibody

Catalog Number: CTLA4-101AP

Lot Number:

General Information

Product	CTLA4 Antibody
Description	Cytotoxic T-lymphocyte protein 4 Antibody
Accession #	Uniprot: P16410 GenBank: AAL07473.1
Verified Applications	ELISA, ICC/IF, IHC, IP, WB
Species Cross Reactivity	Human, Mouse, Rat
Host	Rabbit
Immunogen	Synthetic peptide taken within amino acid region 150-200 on human CTLA4 protein
Alternative Nomenclature	CD 152 antibody, Celiac disease 3 antibody, CELIAC3 antibody, Cytotoxic T cell associated 4 antibody, GRD4 antibody, GSE antibody, ICOS antibody, IDDM12 antibody, Ligand and transmembrane spliced cytotoxic T lymphocyte associated antigen 4 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.7 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20°C for long term storage.

Recommended Dilutions

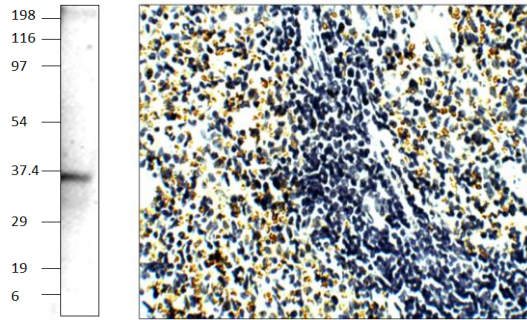
DOT Blot	1:10,000
ELISA	1:10,000
Immunohistochemistry	1:100
Immunoprecipitation	1:200
Western Blot	1:500

Related Products

Catalog

BIOTIN-Conjugated	CTLA4-BIOTIN
FITC-Conjugated	CTLA4-FITC
Antigenic Blocking Peptide	P-CTLA4
Western Blot Positive Control	PC-CTLA4

Application Verification:



WB of CTLA4-101AP with PC-CTLA4. 1:500 antibody dilution in DiluObuffer.

Rat Spleen- CTLA4

Primary Antibody: CTLA4-101AP; 1:100 dilution in IHC Blocking Buffer. DAB (brown) staining and Hematoxylin QS (blue) counterstain. 40X magnification on Leica DM4000 microscope. FFPE section.

Dilutions are for reference only. Applications not listed above are not necessarily precluded from working with this antibody. Investigators intending to use an application that has not been verified can request a complimentary sample.

Overview:

Regulatory T-cells are involved in the vertebrate immune systems's self check mechanism that prevents destroying the immune system. The Cytotoxic T-lymphocyte antigen 4 (CTLA4) is a protein that is expressed on regulatory T-lymphocytes and is involved in restraining the immune response when needed and in tachyphylaxis and tolerance. The Foxp3p-CD4+ (CD25+CD4+) regulatory T cells (Tregs) express the transcription factor Foxp3, which suppress aberrant immune responses as seen in autoimmune diseases and allergy (1). Foxp3+ Tregs constitutively express CTLA4 and FOX3p controls the expression of CTLA4 in Tregs (1). CTLA4 is a potent negative regulator of T cell responses as illustrated in CTLA4 knockout mice which die prematurely from multiorgan inflammation (2). Mutations in this gene have been associated with insulin-dependent diabetes mellitus, Graves's disease, Hashimoto thyroiditis, celiac disease, systemic lupus erythematosus, thyroid-associated orbitopathy, and other autoimmune diseases.

The polymorphism in the CTLA4 gene contributes to the genetic susceptibility to autoimmune diseases such as diabetes type I (3). Various other auto immune conditions such as inflammatory bowel disease tumor immunity can be suppressed by blocking CTLA4 by CTLA4 antibody (4). By deleting the CTLA4 gene in Tregs the role of CTLA4 in maintenance of self tolerance and immune homeostasis can be studied. The Treg specific CTLA4 deficiency impairs in vivo and in vitro suppressive functions of Treg by down regulating CD80 and CD86 expression in dendritic cells (4). Thus the naturally occurring Tregs may require CTLA4 to suppress immune responses by affecting the potency of antigen-presenting cells to activate other T cells (4). The CTLA4 expressed in Foxp3p positive tregs is critically required for their in vivo and in vitro suppression which is mediated in at least in part by CTLA4 dependent down regulation of CD80 and CD86 in antigen presenting cells. The CTLA4 is a key molecular target for controlling Treg-suppressive function in both physiological and pathological immune responses including autoimmunity, allergy and tumor immunity. The CTLA4 is a 223 amino acid protein with an apparent MW of 28kD. This gene is a member of the immunoglobulin superfamily and encodes a protein which transmits an inhibitory signal to T cells. The protein contains a V domain, a transmembrane domain, and a cytoplasmic tail. Alternate transcriptional splice variants, encoding different isoforms, have been characterized. The membrane-bound isoform functions as a homodimer interconnected by a disulfide bond, while the soluble isoform functions as a monomer. CTLA4 also expressed as a larger transcript variant isoform also known as CTLA4-TM. The tyrosine at position 201 is also a substrate for phosphorylation.

The CTLA4-selective antibodies were generated against peptide from a unique region of the CTLA4 gene that is not present in other proteins taken within amino acid region 150-200 on human CTLA4 protein. The antigenic sequence was common in rat, mouse and human CTLA4 gene. Antigenic blocking peptides (P-CTLA4) and western blot positive controls (PC-CTLA4) are available. Antibodies can be conjugated to secondary enzymes or fluorophores upon request at nominal costs. For a complete listing of all FabGennix products and services please visit <http://fabgennix.com>.

References:

1. Sakahimiuchi S. et. al., Cell 133, 775, 2008.
2. Waterhouse P. et. al., Science 270, 985, 1995.
3. The welcome trust case control consortium, Nature 447, 661, 2007.
4. Reed S et. al., J. immunology 177, 4376, 2006.

* For users who may require large amounts of the products listed above, please inquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.