Anti-CTLA-4 Antibody

IRS016

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	mIHC
Molecular Wt:	Predicted band size: 25 kDa

Description: CTLA-4 or CTLA4 (cytotoxic T-lymphocyte-associated protein 4), also known as CD152 (cluster of differentiation 152), is a protein receptor that functions as an immune checkpoint and downregulates immune responses. CTLA-4 is constitutively expressed in regulatory T cells but only upregulated in conventional T cells after activation – a phenomenon which is particularly notable in cancers. It acts as an "off" switch when bound to CD80 or CD86 on the surface of antigen-presenting cells. Variants in this gene have been associated with Type 1 diabetes, Graves' disease, Hashimoto's thyroiditis, celiac disease, systemic lupus erythematosus, thyroid-associated orbitopathy, primary biliary cirrhosis and other autoimmune diseases. Polymorphisms of the CTLA-4 gene are associated with autoimmune diseases such as rheumatoid arthritis, autoimmune thyroid disease and multiple sclerosis, though this association is often weak. In systemic lupus erythematosus (SLE), the splice variant sCTLA-4 is found to be aberrantly produced and found in the serum of patients with active SLE. Germline haploinsufficiency of CTLA-4 leads to CTLA-4 deficiency or CHAI disease (CTLA4 haploinsufficiency with autoimmune infiltration), a rare genetic disorder of the immune system. Symptomatic patients with CTLA-4 mutations are characterized by an immune dysregulation syndrome including extensive T cell infiltration in a number of organs, including the gut, lungs, bone marrow, central nervous system. Once a diagnosis is made, the treatment is based on an individual's clinical condition and may include standard management for autoimmunity and immunoglobulin deficiencies. The comparatively higher binding affinity of CTLA-4 than CD28 has made it a potential therapy for autoimmune diseases.

Immunogen:	Synthetic peptide within Human CTLA4 aa 150 to the C-terminus.
Positive control:	Human tonsils tissue.
Subcellular location:	Cell membrane.
Database links:	SwissProt: P16410 Human
Recommended Dilutions:	
mIHC	1:100
Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

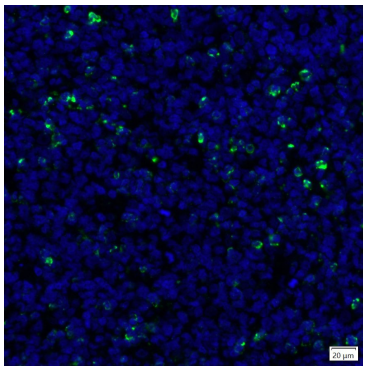

Fig1: mIHC analysis of human tonsils tissue (Formalin/PFA-fixed paraffin-embedded sections) with Rabbit anti-CTLA-4 antibody (IRS016) at 1/100 dilution. The immunostaining was performed with the IRISKitCmTSA Kit (900808). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 30 mins at 95℃. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Olympus VS200 Slide Scanner.

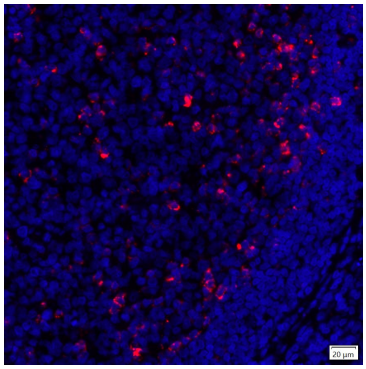

Fig2: mIHC analysis of human tonsils tissue (Formalin/PFA-fixed paraffin-embedded sections) with Rabbit anti-CTLA-4 antibody (IRS016) at 1/100 dilution. The immunostaining was performed with the IRISKitCmTSA Kit (900808). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 30 mins at 95℃. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Olympus VS200 Slide Scanner.

Background References

1. Westra HJ, Martínez-Bonet M, Onengut-Gumuscu S, Lee A, Luo Y, Teslovich N, et al. (October 2018). "Fine-mapping and functional studies highlight potential causal variants for rheumatoid arthritis and type 1 diabetes". Nature Genetics. 50 (10): 1366–1374.
2. Schubert D, Bode C, Kenefeck R, Hou TZ, Wing JB, Kennedy A, et al. (December 2014). "Autosomal dominant immune dysregulation syndrome in humans with CTLA4 mutations". Nature Medicine. 20 (12): 1410–1416.