

Rabbit TCR alpha/TRAC Polyclonal Antibody | anti-TRAC antibody

Anti-TCR alpha/TRAC Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA124961	Rabbit	Human, Mouse, Rat	ELISA, Flow Cytometry, Functional Assay, Immunocytochemistry, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

TCR alpha/TRAC; Polyclonal Antibody; Anti-TCR alpha/TRAC Antibody; T-cell receptor alpha chain C region; TRAC; TCRA; T cell receptor alpha constant; anti-TRAC antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Purity/Purification	Immunogen Affinity Purified
Form/Format	Lyophilized; Each vial contains 4mg Trehalose, 0.9 mg NaCl and 0.2 mg Na ₂ HPO ₄ .
Sequence Length	140
Applicable Applications for anti-TRAC antibody	ELISA (Direct ELISA), FCM/FACS (Flow Cytometry), ICC (Immunocytochemistry), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	E Coli-derived human TCR alpha recombinant protein (Position: I1-L114). Human TCR alpha shares 57.8% amino acid (aa) sequence identity with mouse TCR alpha.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Relevant Detection Systems	It is recommended to use an Enhanced Chemiluminescent Kit with anti-Rabbit IgG (please inquire) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (please inquire) for IHC-F and ICC.
Preparation and Storage	Store at -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for 6 months. Avoid repeated freezing and thawing.



FCM/FACS (Flow Cytometry)
Figure 3. Flow Cytometry analysis of THP-1 cells using anti-TCR alpha antibody.Overlay histogram showing THP-1 cells stained with AAA124961 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-TCR alpha antibody.Overlay histogram showing THP-1 cells stained with AAA124961 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-TCR alpha Antibody for 30 min at 20 degree C. DyLight488 conjugated goat anti-rabbit IgG (5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



WB (Western Blot)
Figure 1. Western blot analysis of TCR alpha using anti-TCR alpha antibody.Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours.Lane 1: recombinant human TCR alpha protein 1ng.After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-TCR alpha antigen affinity purified polyclonal antibody at 0.5 ug/ml overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for TCR alpha at approximately 16KD. The expected band size for TCR alpha is at 16KD.

ADDITIONAL INFORMATION

Related Product Information for anti-TRAC antibody	Background: T cell receptors recognize foreign antigens which have been processed as small peptides and bound to major histocompatibility complex (MHC) molecules at the surface of antigen presenting cells (APC). Each T cell receptor is a dimer consisting of one alpha and one beta chain or one delta and one gamma chain. In a single cell, the T cell receptor loci are rearranged and expressed in the order delta, gamma, beta, and alpha. If both delta and gamma rearrangements produce functional chains, the cell expresses delta and gamma. If not, the cell proceeds to rearrange the beta and alpha loci. This region represents the germline organization of the T cell receptor alpha and delta loci. Both the alpha and delta loci include V (variable), J (joining), and C (constant) segments and the delta locus also includes diversity (D) segments. The delta locus is situated within the alpha locus, between the alpha V and J segments. During T cell development, the delta chain is synthesized by a recombination event at the DNA level joining a D segment with a J segment; a V segment is then joined to the D-J gene. The alpha chain is synthesized by recombination joining a single V segment with a J segment. For both chains, the C segment is later joined by splicing at the RNA level. Recombination of many different V segments with several J segments provides a wide range of antigen recognition. Additional diversity is attained by junctional diversity, resulting from the random additional of nucleotides by terminal deoxynucleotidyltransferase. Five variable segments can be used in either alpha or delta chains and are described by TRAV/DV symbols. Several V and J segments of the alpha locus are known to be incapable of encoding a protein and are considered pseudogenes.
References	1. Choudhuri, K., Llodra, J., Roth, E. W., Tsai, J., Gordo, S., Wucherpfennig, K. W., Kam, L. C., Stokes, D. L., Dustin, M. L. Polarized release of T-cell-receptor-enriched microvesicles at the immunological synapse. Nature 507: 118-123, 2014. 2. Janeway, C. A., Jr., Travers, P., Walport, M., Shlomchik, M. J. Immunobiology: The Immune System in Health and Disease. (6th ed.). New York: Garland Science Publishing (pub.) 2005. Pp. 149-154, and 164-165.

NCBI AND UNIPROT INFORMATION

NCBI GI #	1431906459
NCBI GeneID	28755
UniProt Accession #	P01848; A0A087WWC6
NCBI Official Full Name	T cell receptor alpha constant
NCBI Official Synonym Full Names	T cell receptor alpha constant
NCBI Official Symbol	TRAC
NCBI Official Synonym Symbols	TRA; IMD7; TCRA; TRCA
UniProt Protein Name	T cell receptor alpha constant
UniProt Gene Name	TRAC

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/tcr-alpha-trac-antibody-direct-elisa-flow-cytometry-immunocytochemistry-immunohistochemistry-western-blot-elisa/124961>