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TRGC2 Rabbit pAb

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Catalog # AP55013

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P03986
Predicted	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	21698
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TRGC2
Epitope Specificity	61-160/189
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Single-pass membrane protein (Potential).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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 gamma locus. The gamma locus includes V (variable), J (joining), and C (constant) segments. During T cell development, the gamma chain is synthesized by a recombination event at the DNA level joining a V segment with a J segment; 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 addition of nucleotides by terminal deoxynucleotidyltransferase. Several V segments of the gamma locus are known to be incapable of encoding a protein and are considered pseudogenes. Somatic rearrangement of the gamma locus has been observed in T cells derived from patients with T cell leukemia and ataxia telangiectasia. [provided by RefSeq, Jul 2008]

Additional Information

Other Names	T cell receptor gamma constant 2 {ECO:0000303|Ref.4}, TRGC2 {ECO:0000303|Ref.4}

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	TRGC2 {ECO:0000303|Ref.4}
Function	Constant region of T cell receptor (TR) gamma chain that participates in the antigen recognition (PubMed:24600447). Gamma-delta TRs recognize a variety of self and foreign non-peptide antigens frequently expressed at the epithelial boundaries between the host and external environment, including endogenous lipids presented by MH-like protein CD1D and phosphoantigens presented by butyrophilin-like molecule BTN3A1. Upon antigen recognition induces rapid, innate-like immune responses involved in pathogen clearance and tissue repair (PubMed:23348415, PubMed:28920588). Binding of gamma-delta TR complex to antigen triggers phosphorylation of immunoreceptor tyrosine-based activation motifs (ITAMs) in the CD3 chains by the LCK and FYN kinases, allowing the recruitment, phosphorylation, and activation of ZAP70 that facilitates phosphorylation of the scaffolding proteins LCP2 and LAT. This lead to the formation of a supramolecular signalosome that recruits the phospholipase PLCG1, resulting in calcium mobilization and ERK activation, ultimately leading to T cell expansion and differentiation into effector cells (PubMed:25674089). Gamma-delta TRs are produced through somatic rearrangement of a limited repertoire of variable (V), diversity (D), and joining (J) genes. The potential diversity of gamma-delta TRs is conferred by the unique ability to rearrange (D) genes in tandem and to utilize all three reading frames. The combinatorial diversity is considerably increased by the sequence exonuclease trimming and random nucleotide (N) region additions which occur during the V-(D)-J rearrangements (PubMed:24387714).
Cellular Location	Cell membrane.

Background

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Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.