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Toso Antibody

Catalog # ASC10106

Product Information

Application	WB, E
Primary Accession	O60667
Other Accession	NP_005440, 4885641
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	43146
Conjugate	Unconjugated
Application Notes	Toso antibody can be used for detection of Toso by Western blot at 1 g/mL. Despite its predicted molecular weight, Toso often migrates at 60 kDa in SDS-PAGE.

Additional Information

Gene ID	9214
Other Names	Toso Antibody: FCMR, TOSO, Fas apoptotic inhibitory molecule 3, Regulator of Fas-induced apoptosis Toso, Fas apoptotic inhibitory molecule 3
Target/Specificity	FAIM3;
Reconstitution & Storage	Toso antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Toso Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FCMR {ECO:0000303|PubMed:25888699, ECO:0000312|HGNC:HGNC:14315}
Function	High-affinity Fc receptor for immunoglobulin M (IgM), both secreted and membrane-bound IgM (PubMed:19858324, PubMed:22675200, PubMed:36949194, PubMed:37095205). Primarily regulates IgM transport and homeostasis. In lymphoid cells, enables exocytosis of membrane- bound IgM on the plasma membrane as well as endocytosis of IgM-antigen complexes toward lysosomes for degradation. In mucosal epithelium, mediates retrotranscytosis of antigen-IgM complexes across mucosal M cells toward antigen-presenting cells in mucosal lymphoid tissues (PubMed:21908732, PubMed:28230186). Triggers costimulatory signaling and mediates most of IgM effector functions involved in B cell development and primary immune

	response to infection. Likely limits tonic IgM BCR signaling to self-antigens for proper negative selection of autoreactive B cells in the bone marrow and for the maintenance of regulatory B cell pool in peripheral lymphoid organs. Mediates antibody responses to T cell-dependent and T cell-independent antigens and promotes induction of an efficient neutralizing IgG response. Engages in cross-talk with antigen-receptor signaling via the non-canonical NF- kappa-B, MAP kinases and calcium signaling pathways (PubMed:19858324, PubMed:22675200, PubMed:25601920, PubMed:30840890).
Cellular Location	Cell membrane; Single-pass membrane protein. Early endosome membrane; Single-pass membrane protein. Golgi apparatus, trans- Golgi network membrane; Single-pass membrane protein. Lysosome membrane; Single-pass membrane protein. Note=Continuously recycles between cytoplasmic pool and the plasma membrane to bind as much IgM as possible
Tissue Location	Expressed by CD19-positive B cells and CD4-positive and CD8-positive T cell populations in primary and secondary lymphoid tissues (at protein level). Among B cell subsets, detected in a subset of bone marrow pro- and pre-B cells, in most follicular and memory B cells and in a small subset of germinal center B cells (at protein level). Expressed at lower levels in CD56-positive NK cells (at protein level) (PubMed:19858324, PubMed:21908732, PubMed:22675200, PubMed:30840890). Expressed in lymph nodes, lung, thymus and kidneys Very weak expression detected in spleen, liver, heart, and salivary gland.

Background

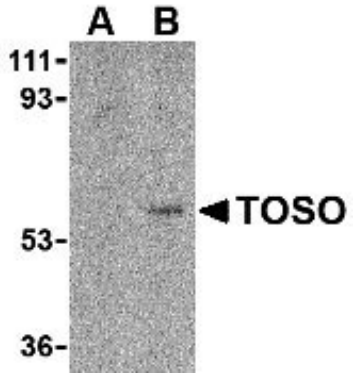
Toso Antibody: Apoptosis is an important process by which normal tissue homeostasis and function are maintained. One of the major signals that regulate this process is mediated by the activation of the Fas receptor by its ligand. This leads to the formation of a Fas-associated death domain (FADD)- containing death-inducing signaling complex and the activation of caspase-8, which in turn activates downstream effector caspases, such as caspase-3 and -7. Recent experiments have shown that overexpression of Toso, a novel regulator of Fas-induced apoptosis in lymphoid cells, in Jurkat cells as well as transgenic mice render these cells resistant to Fas-induced apoptosis but not to TRAIL-induced apoptosis. Furthermore, Toso was found to associate with FADD, suggesting that Toso functions by disrupting the formation of the death-inducing signaling complex.

References

Curtin JF and Cotter TG. Live and let die: regulatory mechanisms in Fas-mediated apoptosis. Cell Signal. 2003; 15:983-92.
Hitoshi Y, Lorens J, Kitada S-I, et al. Toso, a cell surface, specific regulator of Fas-induced apoptosis in T cells. Immunity 1998; 8:461-71.
Song Y and Jacob CO. The mouse cell surface protein Toso regulates Fas/Fas ligand-induced apoptosis through its binding to Fas-associated death domain. J. Biol. Chem.2005; 280:9618-26.

Images

Western blot analysis of Toso in human lung tissue lysate with Toso antibody at 1 µg/mL in either the (A) presence, or (B) absence of blocking peptide.



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