

PRODUCT INFORMATION

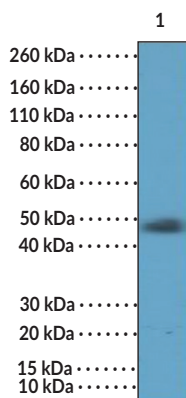
LAIR-1 Rabbit Monoclonal Antibody (Clone RM498)

Item No. 42850

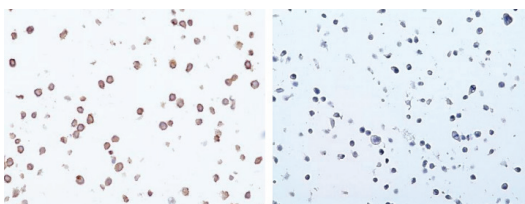
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified recombinant monoclonal antibody
Synonyms:	CD305, Leukocyte-associated Immunoglobulin-like Receptor 1
Immunogen:	Recombinant human LAIR-1 extracellular domain
Cross Reactivity:	(+) LAIR-1
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM498
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:500 for IHC and 1:100-1:2,500 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

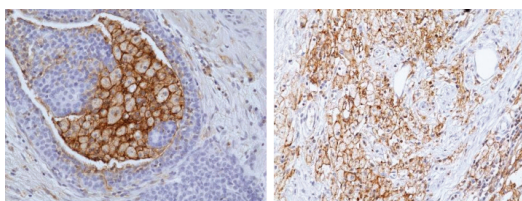
Images



WB of THP-1 cell lysates using LAIR-1 Rabbit Monoclonal Antibody (Clone RM498) at dilution of 1:2,500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded THP-1 (left) and HeLa cells (right) using Cayman's LAIR-1 Rabbit Monoclonal Antibody (Clone RM498) at a dilution of 1:500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast cancer (left) and stomach cancer tissue (right) using Cayman's LAIR-1 Rabbit Monoclonal Antibody (Clone RM498) at a dilution of 1:100.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Leukocyte-associated immunoglobulin-like receptor 1 (LAIR-1), also known as CD305, is a membrane-bound inhibitory immune receptor.¹⁻⁴ It is composed of an extracellular C2-type immunoglobulin-like (Ig-like) domain, a transmembrane domain, and two immunoreceptor tyrosine-based inhibitory motifs (ITIMs) in the cytoplasmic tail.² LAIR-1 is expressed in most immune cells, including T cells, natural killer (NK) cells, B cells, and monocytes.¹ It binds to several ligands, notably collagen and complement C1q, and this results in the recruitment of Src homology region 2 domain-containing phosphatase 1 (SHP-1), SHP-2, and C-terminal Src kinase (CSK) to induce immunosuppressive signals.^{3,4} Elevated levels of soluble LAIR-1 have been found in the synovial fluid and urine of patients with rheumatoid arthritis.⁵ Cayman's LAIR-1 Rabbit Monoclonal Antibody (Clone RM498) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Meyaard, L., Adema, G.J., Chang, C., *et al.* LAIR-1, a novel inhibitory receptor expressed on human mononuclear leukocytes. *Immunity* **7**(2), 283-290 (1997).
2. Meyaard, L. The inhibitory collagen receptor LAIR-1 (CD305). *J. Leukoc. Biol.* **83**(4), 799-803 (2008).
3. Son, M. Understanding the contextual functions of C1q and LAIR-1 and their applications. *Exp. Mol. Med.* **54**(5), 567-572 (2022).
4. Guo, N., Zhang, K., Gao, X., *et al.* Role and mechanism of LAIR-1 in the development of autoimmune diseases, tumors, and malaria: A review. *Curr. Res. Transl. Med.* **68**(3), 119-124 (2020).
5. Olde Nordkamp, M.J.M., van Roon, J.A.G., Douwes, M., *et al.* Enhanced secretion of leukocyte-associated immunoglobulin-like receptor 2 (LAIR-2) and soluble LAIR-1 in rheumatoid arthritis: LAIR-2 is a more efficient antagonist of the LAIR-1-collagen inhibitory interaction than is soluble LAIR-1. *Arthritis Rheum.* **63**(12), 3749-3757 (2011).

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