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BM4094 Monoclonal Antibody to MHC Class II (I-A k,b,d,q,r) - Purified

Quantity: 0.15 mg

Concentration: 0.3 mg/ml

Background: MHC Class II antigens are heterodimers consisting of one alpha chain (31-34kD) and one beta chain (26-29kD). The family of monoclonal antibodies (ER-TR3, ER-TR2, ER-TR1) detect MHC class II antigens encoded by the murine Ia region of the H-2 complex, corresponding to the Human HLA-DR region. MHC Class II antigens are a valuable tool for studying T helper cell interaction with class II positive antigen presenting cells (dendritic cells, B cells, macrophages) and offer new possibilities for studying the development of T helper cells since these antibodies also stain stromal cells in the thymus. MHC Class II antigens are also inducible on a number of other cells (endothelium and epithelial cells) by interferon gamma.

Host / Isotype: Rat / IgG2b

Clone: ER-TR3

Immunogen: Murine thymic reticulum.
Remarks: Antigen / Epitope: MHC Class II antigens are heterodimers consisting of one alpha-chain (31-34 kDa) and one beta-chain (26-29 kDa).
The epitope has not been further characterized.

Format: **State:** Lyophilized purified Ig fraction
Purification: Affinity Chromatography
Buffer System: Stock Solution contains PBS, pH 7.2 with 5 mg/ml BSA as a stabilizer and 0.09% Sodium Azide as preservative
Reconstitution: Restore with 0.5 ml distilled water.

Applications: **Immunohistochemistry on Frozen Sections:** 1.5 µg/ml (1/200).
Suggested Positive Control: Mouse spleen.
Does not react on routinely processed paraffin sections.
Has been reported to work in **Flow Cytometry.**
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: Monoclonal antibody ER-TR3 detects MHC class II antigens encoded by the murine Ia region of the H-2 complex, corresponding to the human HLA-DR region. it is a valuable tool for studying T-helper cell interaction with class II positive antigen presenting cells (dendritic cells, B-cells, macrophages). This antibody also offers new possibilities for studying the development of T-helper cells since it also stains stromal cells in the thymus.
Antigen Distribution
Isolated Cells: The antigen is found on dendritic cells, B-cells and macrophages.
Tissue sections: The antigen is found on B-cells, interdigitating cells and macrophages in peripheral lymphoid organs but is absent from T-cells. It is also expressed as a fine reticular pattern on stromal thymic cells of the cortex and as a confluent pattern on stromal thymic cells of the medulla.

Species Reactivity: **Tested:** Mouse (Cells expressing MHC class II antigens). Does not react with Human.

Storage: Store lyophilized at 2-8°C and reconstituted at -20°C. Avoid repeated freezing and thawing.
Shelf life: One year from despatch.

General Readings:

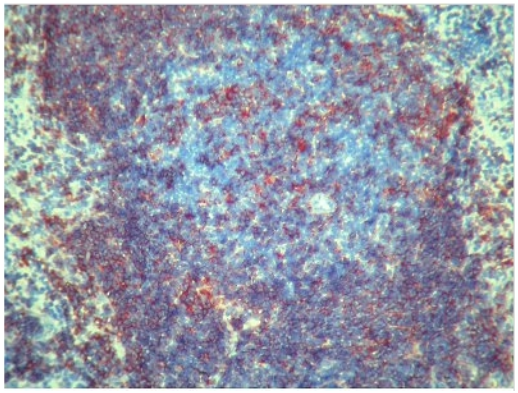
1. Van Vliet E, Melis M, Van Ewijk W. Monoclonal antibodies to stromal cell types of the mouse thymus. Eur J Immunol. 1984 Jun;14(6):524-9. PubMed PMID: 6734714.
2. Van Vliet E, Jenkinson EJ, Kingston R, Owen JJ, Van Ewijk W. Stromal cell types in the developing thymus of the normal and nude mouse embryo. Eur J Immunol. 1985 Jul;15(7):675-81. PubMed PMID: 4007044.

Protocols:

Protocol with Frozen, ice-cold Acetone-Fixed Sections:
The whole procedure is performed at room temperature
1. Wash in PBS
2. Block endogenous peroxidase
3. Wash in PBS
4. Block with 10 % normal goat serum in PBS for 30 min. in a humid chamber
5. Incubate with primary antibody (dilution see datasheet) for 1h in a humid chamber
6. Wash in PBS
7. Incubate with secondary antibody (peroxidase-conjugated goat anti rat IgG (H+L) minimal-cross reaction to mouse) for 1h in a humid chamber
8. Wash in PBS
9. Incubate with AEC substrate (3-amino-9-ethylcarbazol) for 12 min.
10. Wash in PBS
11. Counterstain with Mayer's hemalum

Pictures:

Immunohistochemistry: BM4094 MHC Antibody (Clone ER-TR3) staining of Mouse Spleen Frozen Section.



Distribution of ER-TR1, ER-TR2 and ER-TR3 among Mouse strains with independent and recombinant haplotypes: Percentage of labeled cells, determined by FACS analysis of spleen cell suspensions.

Strain	Haplotype							Clone		
	K	A	B	J	E	C	D	ER-TR1	ER-TR2	ER-TR3
C3H/HeJ	k	k	k	k	k	k	k	48*	46	46
AKR	k	k	k	k	k	k	k	54	52	54
B10.BR	k	k	k	k	k	k	k	59	58	62
B10.ScSn	b	b	b	b	b	b	b	4	5	50
Balb/b	b	b	b	b	b	b	b	4	3	39
B10.D2/n	d	d	d	d	d	d	d	56	5	54
Balb/c	d	d	d	d	d	d	d	45	3	44
DBA/2	d	d	d	d	d	d	d	27	4	47
B10.G	q	q	q	q	q	q	q	53	4	46
DBA/1	q	q	q	q	q	q	q	52	6	54
SWR/J	q	q	q	q	q	q	q	49	3	49
A.SW	s	s	s	s	s	s	s	4	20	6
B10.M	f	f	f	f	f	f	f	4	5	3
B10.RIII	r	r	r	r	r	r	r	39	39	40
B10.AQR	q	k	k	k	k	d	d	52	52	51
B10.T(6R)	q	q	q	q	q	q	d	50	3	52
A.TL	s	k	k	k	k	k	d	29	52	51
A.TH	s	s	s	s	s	s	d	5	49	7