

BM4094F
Monoclonal Antibody to MHC Class II (I-A k,b,d,q,r) - FITC

Quantity: 0.1 mg

Concentration: 0.1 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-TR 3, ER-TR 2, ER-TR 1) 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:** Liquid purified Ig fraction.

Purification: Affinity Chromatography.

Buffer System: Phosphate buffered saline pH 7.2 (PBS) containing 10 mg/ml BSA as a stabilizer and 0.09% Sodium Azide as a preservative

Label: FITC

Applications: **Flow Cytometry:** 10 µg/ml (Use 10 µl of 1/10 diluted antibody to label 10e6 cells).

Suggested Positive Control: mouse spleen.

Has been described to work in FACS.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody is specific for cells expressing MHC class II antigens.

Antigen, epitope: MHC Class II antigens are heterodimers consisting of one alpha-chain (31-34 kD) and one beta-chain (26-29 kD).

Antigen Distribution:

Isolated Cells: The antigen is found on dendritic cells, B-cells and macrophages. The level of antigen detected by ER-TR1, ER-TR 2 and ER-TR 3 differs from strain to strain (see table below).

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.

Monoclonal antibody ER-TR 3 is one member of a family of monoclonal antibodies (ER-TR 3, ER-TR 2, ER-TR 1) which detect MHC class II antigens encoded by the murine Ia region of the H-2 complex, corresponding to the human HLA-DR region. They are

valuable tools for studying T helper cell interaction with class II positive antigen presenting cells (dendritic cells, B-cells, macrophages). These antibodies also offer new possibilities for studying the development of T helper cells since they also stain stromal cells in the thymus.

Species Reactivity:

Tested: Mouse (Cells expressing MHC class II antigens. Does not work in Human.

Storage:

Store the antibody undiluted at 2-8°C.

Shelf life: Six months 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.

Pictures:

Distribution of ER-TR 1, ER-TR 2 and ER-TR 3 among mouse strains with independent and recombinant haplotypes*

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

* Percentage of labelled cells, determined by FACS analysis of spleen cell suspensions