

Product datasheet for **BM4087**

Tfrc Rat Monoclonal Antibody [Clone ID: ER-MP21]

Product data:

Product Type:	Primary Antibodies
Clone Name:	ER-MP21
Applications:	FC, IHC
Recommended Dilution:	Immunohistochemistry on Frozen Sections: 0.5 µg/ml (1/400) Does not react on routinely processed paraffin sections. It works also in FACS . <i>Suggested Positive Control:</i> Mouse spleen.
Reactivity:	Mouse
Host:	Rat
Isotype:	IgG2a
Clonality:	Monoclonal
Immunogen:	Macrophage precursor cells.
Specificity:	ER-MP21 stains proliferating cells of all types as well as cells taking up iron for special needs, such as late erythroid precursors and some mature macrophages. The antibody inhibits the iron uptake and the proliferation of macrophage precursors from bone marrow and early macrophage precursor cell lines. ER-MP21 recognizes the transferrin receptor but does not compete with transferrin binding. Specific for mouse transferrin receptor. The antigen is a 200kDa protein (non-reducing conditions) consisting of two identical chains. The recognized epitope of the receptor is not located at the transferrin binding site. Antigen Distribution: Macrophage progeny at day 7 in bone marrow cultures, treated in parallel on various days by irradiation (1500 rad ⁶⁰ Co γ-radiation) or addition of ER-MP21 (30µg/ml final concentration). Cell numbers were quantified using the MTT assay and expressed relative to untreated controls. Relative growth inhibition calculated from data represented in left figure. For mAb- or radiation treated cultures, the number of cell cycles needed to reach the cell number in untreated controls was calculated. Values obtained for irradiated cultures were taken as 100% inhibition controls and values for ER-MP21 - treated cultures were expressed relative to these (See Figure 1 .)



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Formulation:	Stock solution contains PBS, pH 7.2 with 10 mg/ml BSA as a stabilizer and 0.01% Thimerosal as a preservative State: Purified State: Lyophilized purified Ig fraction
Reconstitution Method:	Restore with 0.5 ml distilled water.
Concentration:	0.2 mg/ml (after reconstitution)
Purification:	Affinity Chromatography
Conjugation:	Unconjugated
Storage:	Prior to reconstitution store at 2-8°C. Following reconstitution store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	transferrin receptor
Database Link:	Entrez Gene 22042 Mouse Q62351
Background:	The transferrin receptor has been structurally characterized as a sulfide bound dimer of identical glycoprotein subunits of 95 kDa. The transferrin receptor is not present on resting blood lymphocytes. On PBL, the receptor appears after activation. The expression of transferrin receptor is coordinately regulated with cell growth. Present on T and B cell lines. The soluble (or serum) transferrin receptor (sTfR) is a circulating truncated form of the membrane receptor protein; it is an 85 kDa glycoprotein forming in serum a 320 kDa complex with diferric transferrin. The most important clinical use of the sTfR determination is in the differential diagnosis between iron deficiency anaemia and the anaemia of chronic disease.
Synonyms:	TfR1, p90, Transferrin receptor protein 1

Note: Protocol: **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 30min. 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 12min.
10. Wash in PBS
11. Counterstain with Mayer's hemalum.

Product images:

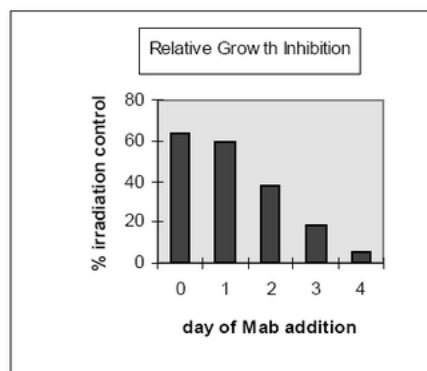
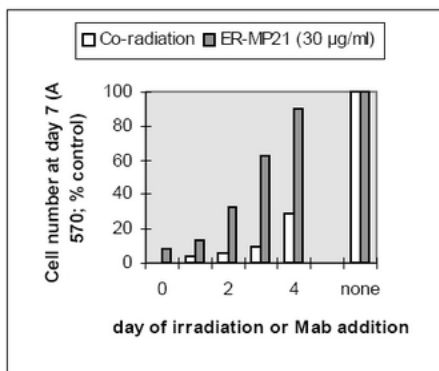


Figure 1. Differentiation stage-dependent inhibition of macrophage proliferation by ER-MP21 in M-CSF- stimulated bone marrow cultures.