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Monoclonal Antibody To Human Macrophages Possibly Recognizing A Scavenger Receptor

Monoclonal antibody X-14, together with X-4, and PM-2K, forms a particular group of macrophage specific antibodies which were tested at the Vth Leukocyte Typing Workshop held in Boston in 1993. The X-14 antigen was initially suspected to function as a scavenger receptor. However, experiments with CHO cells expressing Macrophage Scavenger Receptor (MSR) AI or All showed that they were not recognized by this antibody.

Product Number:	T-1050 (Lot 01PO9406)
Clone:	X-14
Host species, isotype:	Mouse IgG1
Quantity:	100µg
Format:	Affinity purified, lyophilized Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 10mg/ml bovine serum albumin (BSA) as a stabilizer and 0.01% thimerosal as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C Stock solution or aliquots thereof: 1 year at -20°C. Avoid repeated thawing and freezing.
Applications:	Tested for immunohistochemistry (IHC). Approximate working dilution for IHC: Frozen sections: 2µg/ml (1:100) Paraffin sections: not tested. Optimal dilutions should be determined by the end user. Suggested positive control: Human tonsil. Please see www.bma.ch for protocols and general information.
Immunogen:	Cultured human monocytes.
Antigen, epitope:	The antigen is found on the cytoplasmic side of the macrophage cell membrane. The epitope has not been determined.

Antigen distribution: **Isolated cells:** Positive on peritoneal macrophages and on cultivated macrophages with serum supplementation. Positive in AML but not on blast cells. Negative under serum-free conditions, on freshly isolated monocytes and on fMLP activated neutrophils. U937 cells show increased antigen expression after TNF α and GM-CSF treatment.

Tissue sections: X-14 is positive on macrophages, Kupffer cells, mesangial cells and Hoffbauer cells. It is positive on intrafollicular and paracortical dendritic and spindle macrophages and with macrophages and foamy cells in *Xathoma disseminatum* but negative in sarcoid granuloma and histiocytosis X.

Specificity: **Human:** Macrophages.

Other: Positive in monkey, weak in rabbit, goat, bovine and horse. Negative in rat, guinea pig, cat, and dog.

Comparison of Staining Patterns of X-4^a, X-14 and PM-2K^b on different cell types

	X-4	X-14	PM-2K
Lymph nodes tingible body macrophages	<u>+</u>	-	<u>+</u>
Brain microglial cells	<u>+</u>	-	<u>+</u>
Blood monocytes 24h culture	<u>+</u>	-	-

+ = positive, ± = weakly positive, - = negative

a: Product T-1049

b: Product T-1051

Selected references

XU, H., STEINHAUSEN, F., PETERS, J.H.: Identification of Differentiation Antigens on Human Monocytes and Macrophages with Newly Produced Monoclonal Antibodies. *Exp. Cell. Biol.* **57**, 122 (1989).

SHAW, S. et al. *Leukocyte Typing V: White Cell Differentiation Antigens*, Oxford University Press (1994) Ed. Schlossmann, S. et al. Abstracts M017, M030, M060, M081, M105, M132, M138, M145 (X-14 Workshop Codes = M51, BP264)

Zeng, L., M. Takeya, X. Ling, A. Nagasaki, K. Takahashi. : Interspecies reactivities of anti-human macrophage monoclonal antibodies to various animal species. *J Histochem Cytochem* **44**: 845-853 (1996).

For in vitro research only. Caution: this product contains thimerosal, a poisonous and hazardous substance.