Pacific Biomarkers
The Value of Expertise

M-CSF-1 (Macrophage Colony Stimulating Factor)

Analyte: Macrophage Colony Stimulating Factor
Specimen Type: Serum, Lithium Heparin Plasma
Optimum Volume: 0.5 mL
Stability:

2-8 Degrees C	-20 Degrees C	-70 Degrees C
Unstable*	N.A.*	N.A.*

Reporting Units: pg/mL
Method: ELISA

Biological or Clinical Significance:
M-CSF, also known as CSF-1, was originally discovered in serum, urine and other biological fluids as a factor that could stimulate the formation of macrophage colonies from bone marrow hematopoietic progenitor cells. M-CSF can be produced by a number of cells, including fibroblasts, secretory epithelial cells of the endometrium, bone marrow stromal cells, brain astrocytes, osteoblasts, renal mesangial cells, keratinocytes and LPS- or cytokine activated macrophages, B cells, T cells and endothelial cells. A number of human tumors, including myeloblastic leukemias, lymphoblastic leukemias and adenocarcinomas of the lung, breast, ovary and endometrium, have also been shown to produce M-CSF. The primary function of M-CSF has been shown to be the regulation of the growth, differentiation and function of mononuclear phagocytes. Studies using osteopetrotic (op/op) mutant mice that do not synthesize functional M-CSF, show that the development and function of tissue macrophagesthat are involved in organogenesis and tissue remodeling are dependent on M-CSF. However, macrophages that are involved in inflammatory and immune responses develop independently of M-CSF. M-CSF regulates the differentiation of osteoclast progenitors. During pregnancy, a large increase in uterine M-CSF levels has been observed, suggesting a possible role in the formation and differentiation of the placenta. M-CSF has been shown to enhance the macrophage uptake and degradation of acetylated LDL and to enhance cholesterol esterification in vitro, and administration of M-CSF in vivo has also been shown to rapidly lower plasma cholesterol levels in various animal models.

Elevated levels of circulating M-CSF have been reported during pregnancy and in patients with systemic lupus erythematosus, myeloproliferative diseases, leukemias and lymphoid

Principle of Test Method:
The M-CSF immunoassay is a solid phase ELISA.

Please contact PBI for stability information.

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