

[Open Peer Review on Qeios](#)

# Technetium Tc 99m-labeled Tilmanocept

National Cancer Institute

## Source

National Cancer Institute. *Technetium Tc 99m-labeled Tilmanocept*. NCI Thesaurus. Code C77898.

A radiolabeled macromolecule consisting of the chelating agent diethylenetriamine pentaacetic acid (DTPA) and mannose each attached to a dextran backbone and labeled with metastable technetium Tc-99 (Tc-99m), with mannose binding and radioisotopic activities. Upon injection, the mannose moiety of technetium Tc 99m-labeled tilmanocept binds to mannose-binding protein (MBP). As MBPs reside on the surface of dendritic cells and macrophages, this gamma-emitting macromolecule tends to accumulate in lymphatic tissue where it may be imaged using gamma scintigraphy. This agent exhibits rapid clearance from the injection site, rapid uptake and high retention within the first draining lymph node, and low uptake by the remaining lymph nodes. MBP is a C-type lectin that binds mannose or fucose carbohydrate residues, such as those found on the surfaces of many pathogens, and once bound activates the complement system.