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# Fluorothymidine F-18

National Cancer Institute

## Source

National Cancer Institute. *Fluorothymidine F-18*. NCI Thesaurus. Code C49093.

A radioconjugate consisting of a thymidine analogue radiolabeled with fluorine F 18, a positron emitting isotope. Phosphorylated by S-phase-specific thymidine kinase 1, 3'-deoxy-3'-[18F]fluorothymidine (18F-FLT) is trapped intracellularly by entering the salvage pathway of DNA synthesis without incorporation into DNA. 18F-FLT serves a marker of tumor cell proliferation for imaging with positron emission tomography (PET); as a marker of proliferation rather than metabolism, it is more specific to tumor tissue than 2-deoxy-2-[18F] fluoro-D-glucose (18F-FDG). This agent is metabolically stable, accumulates in the normal bone marrow and the liver, and does not cross the blood-brain barrier.