

[Open Peer Review on Qeios](#)

Alpha-methyl-4-deoxy-4-[(18)F]fluoro-D-glucopyranoside

National Cancer Institute

Source

National Cancer Institute. *Alpha-methyl-4-deoxy-4-[(18)F]fluoro-D-glucopyranoside*. NCI Thesaurus. Code C134765.

A radioconjugate and sodium-dependent glucose transporter (SGLT)-specific tracer that is composed of a glucose analog labeled with the positron-emitting radioactive isotope fluorine F18, and can be used for tumor cell imaging upon positron emission tomography (PET). Upon administration, alpha-methyl-4-deoxy-4-[(18)F]fluoro-D-glucopyranoside (Me4FDG) is specifically taken up by SGLT-expressing tumor cells. The fluorine F 18 moiety can be visualized upon PET imaging and this agent can be used both as a tracer for sugar uptake by and for imaging and staging of certain tumor cell types. Glucose is a major metabolic substrate required for cancer cell survival and growth and is taken up by cancer cells at a much higher rate compared to normal cells. SGLTs, especially SGLT type 2 (SGLT2), are overexpressed on certain tumor cell types and play key roles in glucose transport in these cells. Me4FDG is not transported by glucose uniporter proteins (GLUTs). In contrast, Me4FDG is not transported by glucose transporters (GLUTs).