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Fluorine F 18 Ara-G

National Cancer Institute

Source

National Cancer Institute. *Fluorine F 18 Ara-G*. NCI Thesaurus. Code C120100.

A radioconjugate composed of the guanosine analog arabinosyl guanine (Ara-G), a high-affinity substrate for both cytoplasmic deoxycytidine kinase (DCK) and mitochondrial deoxyguanosine kinase (dGK), labeled with fluorine F 18, that can potentially be used as a tracer for imaging of activated T-lymphocytes during positron emission tomography (PET). Upon administration, fluorine F 18 ara-G is taken up by and accumulates in activated T-lymphocytes with high levels of DCK and dGK. After phosphorylation by DCK and dGK, the 18F moiety can be visualized by PET imaging. Fluorine F 18 ara-G can potentially be used as an imaging agent to detect anti-tumor immune responses and to predict the therapeutic efficacy of immunotherapies. DCK and dGK, both nucleoside salvage pathway enzymes, are overexpressed in activated T-cells.