

[Open Peer Review on Qeios](#)

Fluorine F 18 Galacto-RGD Peptide

National Cancer Institute

Source

National Cancer Institute. *Fluorine F 18 Galacto-RGD Peptide*. NCI Thesaurus. Code C112178.

A radiotracer composed of a cyclic Arg-Gly-Asp (RGD) peptide that is conjugated with galactose and radiolabeled with fluorine 18, for potential noninvasive positron emission tomography (PET) imaging of alphaVbeta3 integrin expression. Upon administration, the RGD moiety of the fluorine 18 galacto-RGD peptide selectively binds to alphaVbeta3 integrin. During PET imaging, alphaVbeta3-expressing tumor cells can be visualized and the degree of tumor angiogenesis can be determined. Use of a hydrophilic glycopeptide-based agent may increase retention in the blood and reduce clearance by the liver. This leads to both increased uptake of fluorine 18 galacto-RGD peptide by tumor cells and enhanced PET imaging efficiency, when compared to other agents that are constructed using lipophilic conjugates. AlphaVbeta3 integrin, a cell adhesion and signaling receptor, is upregulated in tumor vessel endothelial cells and has been associated with proliferation of tumor cells, tumor angiogenesis and metastasis.