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Fluorine F 18 alphaVbeta6-Binding Peptide

National Cancer Institute

Source

National Cancer Institute. *Fluorine F 18 alphaVbeta6-Binding Peptide*. NCI Thesaurus. Code C133094.

A radiotracer composed of a 20 amino acid peptide derived from the GH loop of an envelope protein (VP1) of the foot-and-mouth disease virus (FMDV), where the N-terminal lysine has been substituted with arginine, conjugated with two polyethylene glycol units and radiolabeled with fluorine 18, for potential positron emission tomography (PET) imaging of alphaVbeta6 integrin expression. Upon administration, the arginine-glycine-aspartic acid (RGD) motif within the peptide moiety of the fluorine 18 F alphaVbeta6-binding peptide selectively binds to alphaVbeta6 integrin. During PET imaging, alphaVbeta6-expressing tumor cells can be visualized and the degree of tumor growth can be determined. AlphaVbeta6 integrin, a cell adhesion and signaling receptor, is upregulated in certain cancers and has been associated with proliferation, migration and invasion of tumor cells.