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Gallium Ga 68-NODAGA-Ac-Cys-ZEGFR:1907

National Cancer Institute

Source

National Cancer Institute. *Gallium Ga 68-NODAGA-Ac-Cys-ZEGFR:1907*. NCI Thesaurus. Code C132029.

A radiolabeled recombinant EGFR-specific affibody molecule composed of an epidermal growth factor receptor (EGFR)-targeting protein, the anti-EGFR affibody ZEGFR:1907 with an acetylated cysteine (Ac-Cys) at the N terminal of the affibody, and conjugated to the radioisotope gallium Ga 68, via the chelating agent NODAGA (1,4,7-triazacyclononane,1-glutaric acid-4,7-acetic acid), with potential use for imaging EGFR-expressing tumor cells upon positron emission tomography (PET). Upon administration of gallium Ga 68-NODAGA-Ac-Cys-ZEGFR:1907, the ZEGFR:1907 affibody molecule moiety targets and binds to the extracellular domain (ECD) of EGFR expressed on various tumor cell types. Upon PET, EGFR-expressing tumor cells can be visualized. EGFR, frequently overexpressed in cancers, plays important roles in cell proliferation, survival, adhesion, migration, and differentiation. The affibody protein scaffold is based on the Z-domain, which is derived from one of the immunoglobulin (Ig) G-binding domains of staphylococcal protein A.