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# Gallium Ga 68-HA-DOTA-TATE

National Cancer Institute

## Source

National Cancer Institute. *Gallium Ga 68-HA-DOTA-TATE*. NCI Thesaurus. Code C122036.

A radioconjugate consisting of consisting of the high affinity somatostatin analogue iodo-tyrosine-3-octreotate (HA-TATE), labeled with the positron emission tomography (PET) tracer gallium Ga 68 via the macrocyclic chelating agent 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetra-acetic acid (DOTA), which may be used as a human somatostatin receptor (SSTR) imaging agent in conjunction with PET to image neuroendocrine tumors (NETs). Gallium Ga 68-HA-DOTATATE binds to SSTRs, with high affinity for SSTR2, present on the cell membranes of many types of NETs. This allows for visualization of SSTR-positive cells upon imaging. SSTRs have been shown to be present in large numbers on NETs and their metastases, while most other normal tissues express low levels of SSTRs. HA-TATE is an octreotide derivative in which phenylalanine at position 3 is substituted with iodo-tyrosine and threoninol at position 8 is replaced by threonine. The iodo addition in Gallium Ga 68-HA-DOTA-TATE may allow for higher affinity for the SSTRs when compared to gallium Ga 68-DOTA-TATE.