

[Open Peer Review on Qeios](#)

# Iodine I 124 PU-AD

National Cancer Institute

## Source

National Cancer Institute. *Iodine I 124 PU-AD*. NCI Thesaurus. Code C128487.

A radioconjugate composed of PU-AD, a synthetic purine-scaffold inhibitor of the molecular chaperone heat shock protein 90 (Hsp90), conjugated to the radioisotope iodine I 124, with potential imaging activity upon positron emission tomography (PET). Upon administration of iodine I 124 PU-AD, the PU-AD moiety selectively binds to cancer cells expressing stress-induced Hsp90 (stress Hsp90). Upon PET, Hsp90-overexpressing cancer cells can be visualized and patients who may benefit from PU-AD therapy can be identified. This radioconjugate may also be used to determine the pharmacokinetics of the therapeutic agent PU-AD. PU-AD is able to cross the blood-brain-barrier (BBB) and specifically targets stress Hsp90, as seen in certain conditions, such as cancer and neurodegenerative diseases, while normal housekeeping Hsp90 complexes are not targeted by PU-AD at dose levels administered for imaging. Additionally, housekeeping Hsp90 complexes are only targeted at doses that are much larger than that are needed to exert an anticancer effect.