^{18}F-Fluciclatide

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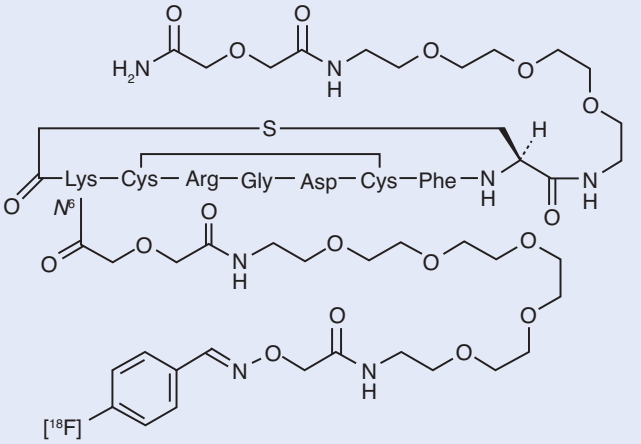
Chemical name and alternative names	Chemical structure
AH111585	

Route of Synthesis

Coupling of 4-^{18}F-fluorobenzaldehyde with aminooxy-functionalised precursor to form oxime.

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J. R. Ballinger, *PET Radiopharmaceuticals*, Clinicians' Guides to Radionuclide Hybrid Imaging, https://doi.org/10.1007/978-3-031-10271-4_11

Normal Biodistribution and Excretion

Initial high uptake in liver, spleen, and heart wall followed by clearance. Excretion is 37% via kidneys and 20% via liver. Biological half-life in whole blood is 0.25 h (McParland et al. 2008).

Activity Administered

370 MBq.

Radiation Dosimetry

Effective dose equivalent (mSv/MBq): 0.026 (10 mSv/370 MBq).

Organ doses (mGy/MBq): urinary bladder wall, 0.12; kidneys, 0.10; cardiac wall 0.06 (McParland et al. 2008).

Patient Preparation

Patient preparation is not standardised yet.

Clinical Utility

Targets $\alpha_v\beta_3$ integrin for imaging angiogenesis. Has been shown to be taken up in breast cancer, melanoma, and renal tumours (Tomasi et al. 2011; Mena et al. 2014; Sharma et al. 2015, 2020).

Further Reading

McParland BJ, Miller MP, Spinks TJ, et al. The biodistribution and radiation dosimetry of the Arg-Gly-asp peptide ^{18}F-AH111585 in healthy volunteers. J Nucl Med. 2008;49:1664–7.

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Sharma R, Kallur KG, Ryu JS, et al. Multicenter reproducibility of ^{18}F-fluciclatide PET imaging in subjects with solid tumors. J Nucl Med. 2015;56:1855–61.

Sharma R, Valls PO, Inglese M, et al. [^{18}F]Fluciclatide PET as a biomarker of response to combination therapy of pazopanib and paclitaxel in platinum-resistant/refractory ovarian cancer. Eur J Nucl Med Mol Imaging. 2020;47:1239–1251.

Tomasi G, Kenny L, Mauri F, et al. Quantification of receptor-ligand binding with [^{18}F]fluciclatide in metastatic breast cancer patients. Eur J Nucl Med Mol Imaging. 2011;38:2186–97.