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# Meta-Fluorine F 18 Fluorobenzylguanidine

National Cancer Institute

## Source

National Cancer Institute. *meta-Fluorine F 18 Fluorobenzylguanidine*. NCI Thesaurus. Code C120311.

A radioconjugate composed of the positron-emitting radioisotope fluorine F 18 labeled benzylguanidine, a synthetic analogue of the adrenergic neurotransmitter norepinephrine (NE), with potential use in the diagnostic imaging of human norepinephrine transporter (hNET)-expressing cells by either positron emitting tomography (PET) or computed tomography (CT). Upon administration, meta-fluorine F 18 fluorobenzylguanidine (MFBG) is taken up by and accumulates in both the granules of adrenal medullary chromaffin cells and the pre-synaptic granules of adrenergic neurons in a manner almost identical to that of NE. In turn, hNET-expressing tumor cells can be imaged by PET or CT. hNET, a transmembrane protein and regulator of catecholamine uptake normally restricted to the central and peripheral sympathetic nervous system, is overexpressed in certain tumor cell types.