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# Fluorine F 18 Fluoroethylcholine

National Cancer Institute

## Source

National Cancer Institute. *Fluorine F 18 Fluoroethylcholine*. NCI Thesaurus. Code C70594.

Ethylcholine labeled with fluorine F 18, a positron-emitting isotope. Fluorine F 18 fluoroethylcholine incorporates into tumor cells through an active, carrier-mediated transport mechanism for choline and then is phosphorylated intracellularly by choline kinase, yielding a phosphoryl derivative, and finally is integrated into cellular phospholipids, probably primarily into a phosphatidyl derivative; concentration of this agent in tumor cells as various fluorine F 18 fluoroethylcholine derivatives enables tumor imaging using positron emission tomography (PET). Choline kinase, the enzyme responsible for the phosphorylation of choline, is frequently up-regulated in human tumor cell lines.