

## Fact Sheet: Fluoromethylcholine [<sup>18</sup>F] Injection

### **Fluoromethylcholine [<sup>18</sup>F] injection** **Half-Life: 109.77 min**

Fluoromethylcholine [<sup>18</sup>F] injection, a positron-emitting radiopharmaceutical containing no carrier added (NCA) radioactive fluoride [<sup>18</sup>F], is used for diagnostic purposes in conjunction with positron emission tomography (PET) imaging. Choline is an important component in the buildup of phospholipid cell membranes; hence, fast proliferating cells may express high choline uptake. This property has been utilized in several PET studies with [<sup>18</sup>F] fluoromethylcholine for the detection and differential diagnosis of prostate cancer, breast carcinoma and brain tumors.

### **About BV Cyclotron VU**

BV Cyclotron VU is a leading provider of PET-radiopharmaceuticals and radionuclides for the nuclear medicine community. Our expert team ensures reliable supply of our products and the highest possible product quality. Total annual output is about 35,000 patient doses.

### Product Specification

#### **Name**

Fluoromethylcholine [<sup>18</sup>F] injection

#### **Pharmaceutical form**

Solution for injection, multi-dose

#### **Activity concentration**

225 MBq/mL at time and date of calibration

#### **Radiochemical purity**

≥ 95%

#### **pH and composition**

4.5 - 7.5 // Fluoromethylcholine [<sup>18</sup>F], sodium chloride and water for injections

#### **Storage**

Storage in the original packaging at controlled room temperature (< 25 °C)

#### **Expiry**

9 hours after ART

#### **Isotope**

Fluorine-18

### Packaging

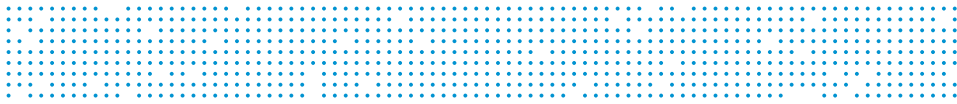
15 mL multi-dose colorless glass vial, type I

### Availability

Wednesdays and Thursdays. Only available for clinical trials or on patient name basis.

### Calibration

12:00 p.m. CET, same day



## Physical Data

Rad. Type	Energy (keV)	Radiation Intensity (%)
B+	249.8	96.7
E-AU-K	0.52	3.07
G-AN	511	193

## Decay Table

Physical half-life: 109.77 min

Hours\Min	0	10	20	30	40	50
0	1.000	0.939	0.881	0.827	0.777	0.729
1	0.685	0.643	0.603	0.567	0.532	0.499
2	0.469	0.440	0.413	0.388	0.364	0.342
3	0.321	0.301	0.283	0.266	0.249	0.234
4	0.220	0.206	0.194	0.182	0.171	0.160
5	0.150	0.141	0.133	0.125	0.117	0.110
6	0.103	0.097	0.091	0.085	0.080	0.075

To obtain a precalibration number, divide by the decay factor.  
For a postcalibration number, multiply by the decay factor.  
See our online decay calculator: <http://2cyc.eu/calc>

## More Information

Hara T, Koasaka N. Development of <sup>18</sup>F-Fluoroethylcholine for Cancer Imaging with PET: Synthesis, Biochemistry, and Prostate Cancer Imaging. J Nucl Med 43:187–199, 2002. PMID: 11850483.

Schoeder H, Larson S. Positron Emission Tomography for Prostate, Bladder and Renal Cancer. Sem Nucl Med 34:274–292, 2004. PMID: 15493005.

DeGrado T, Baldwin S. Synthesis and evaluation of <sup>18</sup>F-labeled choline analogs as oncologic PET tracers. J Nucl Med 42:1805–1814, 2001. PMID: 11752077.

Picchio M, Messa C. Value of [<sup>11</sup>C]choline-positron emission tomography for re-staging prostate cancer: a comparison with [<sup>18</sup>F]fluorodeoxyglucose-positron emission tomography. J Urol 169:1337–1340, 2003. PMID: 12629355.

de Jong IJ, Pruijm J, Elsinga PH, et al. <sup>11</sup>C-choline positron emission tomography for the evaluation after treatment of localized prostate cancer. Eur Urol 44:32–38, 2003; discussion 38–39. PMID: 12814672.

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