Production of 2-[^{18}F]Fluoro-2-deoxy-*D*-glucose at the Laboratory of Radiochemistry, University of Helsinki[1,2]

T. Kyllonen and E.-L. Kämäräinen

Laboratory of Radiochemistry, Department of Chemistry, University of Helsinki, Helsinki, Finland

Received February 6, 2001

Abstract - Production 2-[^{18}F]fluoro-2-deoxy-*D*-glucose ([^{18}F]FDG) was started at the Laboratory of Radiochemistry in 1998 when a cyclotron, specially designed for the production of short-lived positron emitters, was bought to the laboratory. The radiosynthesis of [^{18}F]FDG is based on aminopolyether-mediated nucleophilic fluorination. [^{18}F]Fluoride is produced by the ^{18}O(p,n)^{18}F nuclear reaction. [^{18}F]FDG is synthesised with an automated device. The radiochemical yield of the synthesis is 50% (by the end of bombardment). Sterile and isotonic [^{18}F]FDG solution is produced within 55 min. [^{18}F]FDG is delivered for patient use by the medical company MAP Medical Technologies.