MATERIAL AND METHODS

Measurement of the Arterial Input Function

Blood samples (200 μL) were collected at selected times from the femoral artery to establish total radioactivity kinetics in arterial plasma. Samples were centrifuged (3 min, 2054 g, 4°C) and radioactivity in cell-free plasma (100μL) was counted.

Additional samples (500μL) were withdrawn at 10, 20, 40 and 60 min after injection to determine the fraction of parent ^{11}C-metoclopramide using radio-HPLC. Total radioactivity was counted in plasma samples (250 μL). Samples were deproteinated with acetonitrile (350μL) and centrifuged (3 min, 2054 g, 4°C). The pellet of proteins was counted. The percent recovery in the supernatant was 90.7±2.4%. Then, 400 μL of the supernatant were injected to the radio-HPLC system. The fraction of parent ^{11}C-metoclopramide *versus* time was fitted using a 2-exponential decay equation.

Radio-HPLC Conditions

Radio-HPLC system consisted in a gradient pump, an ASI100T autosampler and a UVD170U UV-vis detector (Thermo Scientific, France) online with an LB-509 radioisotope detector (Berthold, France). Separation was achieved using an Atlantis T3 10 μm, 10 × 250 mm column (Waters). The mobile phases consisted in 10 mM ammonium acetate in water (A) and acetonitrile (B). A linear gradient from 20% to 30% of B in 11 min was applied to the column at a flow rate of 5 mL.min^{-1}.