ONLINE ISSN : 1348-2246
PRINT ISSN : 0910-6340

Analytical Sciences
Vol. 26 (2010) , No. 1 p.63

[PDF (357K)] [References]

Time-dependent Changes in Concentration of Two Clinically Used Acetylcholinesterase Reactivators (HI-6 and Obidoxime) in Rat Plasma Determined by HPLC Techniques after *in vivo* Administration

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(Received August 20, 2009)
(Accepted October 20, 2009)

A simple and reliable HPLC method for determination of rat plasma levels of clinically used acetylcholinesterase (AChE) reactivators (HI-6 and obidoxime) is presented in our study. Separation was carried out by HPLC using an octadecyl silica stationary phase and a mobile phase consisting of 24% acetonitrile and containing 5 mM sodium octanesulfonate and 5 mM tetramethylammonium chloride (pH 2.3). Following intramuscular administration of equimolar doses of both oximes (22.23 mg/kg), the maximum of HI-6 concentration in rat plasma was reached in about 20 min giving 15.26 ± 1.71 μg/mL. The distribution of obidoxime was fast; the single maximum 23.62 ± 3.563 μg/mL was recorded at about 10 min. HPLC with UV detection presented in our study is a general method which could be applied for quick measurements of bisquaternary AChE reactivators in rat plasma.

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doi:10.2116/analsci.26.63

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