Abstract

The work si focused on the synthesis of deuterium-labelled neuroactive steroids useful as inner standards for determination of their farmaco-kinetics and bioavailibility. The starting material for the syntheses was comercial 11α-hydroxyprogesterone **16**. The target compound, 20-Oxo-[9,12,12-$^{2}H_{3}$]5β-pregnan-3α-yl L-glutamyl 1-ester (**47**), contains 3 deuterium atoms in positions 9α, 12α, 12β.

Alternative target with a 18-functionalized group (**34**) was also studied. It will be used for an analogue with deuterium atoms on carbon C-18.