SYNTHESIS, RADIOLABELLING AND IN VIVO TISSUE DISTRIBUTION OF ETHYL MORPHINE GLUCURONIDE

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The aim of the current study is to synthesize glucuronide conjugated ethyl morphine which is able to be labeled with ^{131}I, as a radiopharmaceutical, and to investigate its radiopharmaceutical potential using biodistribution studies in Albino Wistar rats. Ethyl morphine was synthesized from morphine. It was conjugated with UDP-glucuronic acid by using (UDPGT) UDP-glucuronyl transferase enzyme rich microsomes, purified by HPLC (High Performance Liquid Chromatography) and characterized with NMR (Nuclear Magnetic Resonance), IR (Infrared) spectroscopy and LC-MS (Liquid Chromatography-Mass Spectroscopy). The synthesized compound was labeled with

^{131}I and biodistributions studies were performed in rats. Data obtained presented that radiolabeled ethyl morphine glucuronide has higher uptake in the midbrain and hypotalamus than the other branch of brain. ^{131}I-ethyl morphine-glucuronide uptake in stomach, urinary bladder, long and small intestine were higher than the other tissues.