Receptors for morphine and opioids

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Two points concerning enzymatic systems acting on disposal of morphine are discussed, namely the multiplicity of glucuronyltransferase and the effect of nalorphine on N-demethylation of morphine. Evidences of the presence of at least two different glucuronyltransferases in microsomes of rat liver, kidney and intestine are presented. These evidences are given by the different distribution of the glucuronizing activity for morphine and p-nitrophenol in microsomal preparations of these organs; by the different glucuronidation activity for both substrates in newborn and adult rats; by the negative effect of alternate substrate inhibition; by the differences in the activity for both substrates induced by phenobarbital and 3-methylcholantrene; and finally by the chromatographic separation of fractions with enzymatic glucuronidating activity only for p-nitrophenol or only for morphine. Nalorphine in concentrations of 1.3 × 10-3 M and 1.3 × 10-4 M inhibited in vitro de-N-demethylation of morph