Abstract

Metabolic Studies of 4-Hydroxy-Pyridine-4-ones Chelating Agents in Biological Fluids by RP-HPLC

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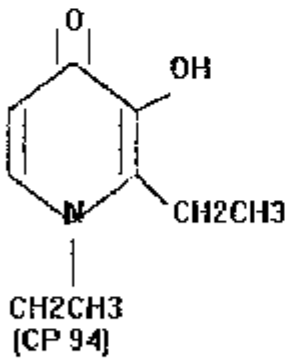
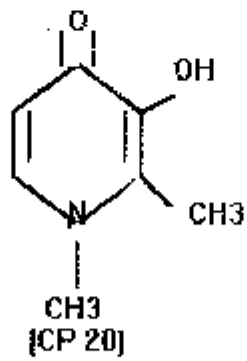
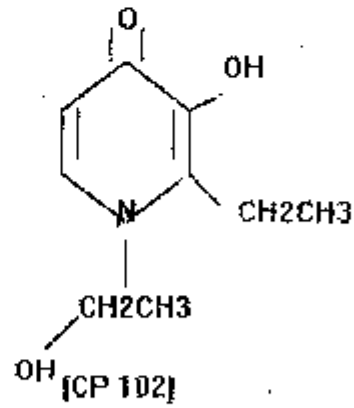
Sufferers of Haemoglobinopathic disorders who are dependent on regular blood transfusion become heavily iron overloaded as a result of the lack of effective excretory mechanisms for excess iron in human. The only drug presently available to aremove excess body iron is desferrioxamine (DFO). For maximal efficacy this drug has to be adminstered by daily subcutaneous infusion. The 3 - hydroxy pyridine - 4 - ones are currently one of the leading candidates for development as orally active alternatives to (DFO) (Fig. 1)



(CP 94)



(CP 20)



(CP 102)

Metabolism of CP20, CP94 and CP102 was studied by analyzing rat bile, urine and serum samples after administration of these drugs. Major and minor metabolites were identified by means of RP-HPLC. Chromatographic analysis was carried out using a Hypercarb porous graphitised carbon HPLC column (10cm x 0.46 cm) . The mobile phase was 14 : 86 (V/V) Acetonitrile-NaH2PO4 buffer and detection was by U.V at 280 nm. The method proves to be sensitive and selective for CP 20, CP 94 and CP 102 and their metabolites in rat biological fluids.