

[PE2-13] [10/19/2000 (Thr) 15:00 – 16:00 / [Hall B]]

Effects of difructose anhydrides on the accumulation and disposition of iron in rats

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Promoters such as monosaccharides, polysaccharides and so on are necessary to improve the iron absorption. We investigated the effects of difructose anhydrides (di-D-fructosefuranose dianhydrides, DFAs) on the iron absorption. We prepared the Fe(III)⁵⁹-DFAs complexes which have optimal molar ratio (1:1). Then, the prepared reagents were single and multiple (three times a day, for five days) administered to rats (0.671 mg Fe(III)/100 uCi Fe(III)⁵⁹/kg), respectively. An aliquot of 100 ul of whole blood was withdrawn from the rat femoral artery at 15, 30, 45, 60, 90, 120, 180, 240 and 360 min. And the radioactivities of the sample were measured by γ -counter (COBRA 5002, Packard Inst., Downers Grove, IL, USA). The blood concentration of iron was significantly higher in rats fed with Fe(III)⁵⁹-DFAs complexes than Fe(III)⁵⁹ alone both for the single and for the multiple dosing. And also, to investigate the distribution of iron, we performed the whole-body autoradiography (WBA). The relative intensities were represented by [photo-stimulated luminescence (PSL)-background (BG)/ area (S)] values in WBA. The intensities of Fe(III)⁵⁹ in case of Fe(III)-DFA III complexes were higher than those of iron alone and Fe(III)-DFA IV complex in all organ such as liver, spleen, heart and kidney and so on. These all results showed that the DFAs might be used as a promoter of iron absorption for the treatment of iron deficiency anemia.

[PE3-1] [10/19/2000 (Thr) 15:00 – 16:00 / [Hall B]]

Crystal Structure of Probucol, an Antihyperlipidemic Agent

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The crystal structure of probucol, an antihyperlipidemic agent was determined by X-ray diffraction technique. The crystals of the compound, which is recrystallized from an ethanolic solution, melts at 128°. It is monoclinic, with $a=19.037(2)$, $b=10.541(2)$, $c=16.984(2)$ Å, $\beta=113.68(1)^\circ$. The space group is $P2(1)/a$, and $Z=4$ with $D_{\text{calc}}=1.099$. The structure was solved by direct method with SIR88 incorporated in maXus1.1 software package. The structure was refined to the R-value of 0.084 by full-matrix least-squares procedure for 4612 independent reflections. Hydrogen bonds were not found despite of the two hydroxy groups of the molecule.

[PE3-2] [10/19/2000 (Thr) 15:00 – 16:00 / [Hall B]]

Effect of Shearing Stress on Rheological Properties of Hydrophilic Polymers

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Introduction: Hydrophilic polymers were widely used in pharmaceutics and cosmetics as suspending, stabilizing and gelling agent. However, physicochemical properties of them could be