

[YAKUZAIGAKU, **55**, 167-174 (1995)]

[Lab. Of Pharm. Engineering]

Stabilization of Lactide/Glycolide Copolymer (PLGA) Nanospheres with Peptide-drug by Freeze-drying.

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The lactide/glycolide copolymer (PLGA) nanospheres with nafarelin acetate(NA) used as a model peptide-drug has been developed by the spontaneous emulsification solvent diffusion method described in our previous reports. The PLGA nanospheres were stored to test the stability of trapped NA or PLGA at 30° C. The freeze-dried nanospheres remarkably improved the physicochemical stabilities such as, particle size, NA content, and PLGA degradation after 3 months of storage. It was concluded that the freeze-dried nanospheres had sufficient stability for practical use.

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[Lab. of Hygienic Chemistry]

Polysaccharides in Fungi. XXXV. Anti Diabetic Activity of an Acidic Polysaccharide from the Fruiting Bodies of *Tremella aurantia*.

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An acidic polysaccharide (TAP) was isolated from a hot-water extract of the fruiting bodies of *Tremella aurantia*. It showed remarkable hypoglycemic activity in normal mice and two diabetic mouse models, streptozotocin-induced diabetes and genetic diabetes, by i.p. administration. Continuous oral administration of TAP solution (0.5 g/L) for a long period was found to be also effective in hyperglycemia in glucose-loaded mice and no harmful effects were found. The molecular weight of TAP was estimated to be about 1500000. TAP is composed of mannose, xylose, glucuronic acid and glucose (molar ratio, 4:2:1:0.3), and it contains 2.2% of *O*-acetyl groups.

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[Lab. of Hygienic Chemistry]

Detoxification of Paraquat Poisoning: Effects of Alkylsulfates and Alkylsulfates and Alkylsulfonates on Paraquat Poisoning in Mice and Rats.

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The study revealed that high molecular polyvinyl sulfate (PVP) or sulfonate (PVS), and low molecular alkyldisulfonates (EDS, TDS, PDS) can alleviate acute toxicity of the herbicide, paraquat dichloride (PQ) in mice. The survival rate for mice receiving PQ at 200 mg/kg alone was increasingly improved when the dose of antidotes was increased from 8 to 10 times the dose of PQ. With high molecular PVS and PVP, the combination reached about a 7 fold increase in LD₅₀ value. BDS and TDS was also proved to be significantly effective in suppressing the formation of lipid peroxide in the lungs.