

[Shoyakugaku Zasshi 43, 300 (1989)]

Studies on Comparative Anatomy of Fruit of *Forsythia* Spp.

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Fruits of *Forsythia* spp. have been described as the origin of the crude drug "Forsythiae Fructus" in Pharmacopoeia Japonica since 1976(Ed. IX). As regards the chemical differences between *Forsythia* spp. the chemical compositions of lignans, glucosides and phenylpropanoid of these species have already been reported. In this report, for the purpose of distinguishing the fruits of seven species of this genus, a microscopic observation was made. Characteristic differences were observed in the shape of whole fruits, distribution of stone cells and surface sculpture of the cuticle, which were useful for clearly distinguishing the 7 species of the genus *Forsythia* from each other.

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Pseudo-exponential Growth in Length of the Fission Yeast, *Schizosaccharomyces pombe*.

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The growth patterns of individual cells of fission yeasts were investigated by time-lapse photomicrography. Wild-type cells showed one, two, or three linear-growth segments followed by a constant-length stage. Cells with two segments were most frequent. Hydroxyurea cells that divided as oversized cells had three linear-growth segments in a cycle. Mutant cdcll-123 cells did not divide but had a constant-length stage separating the cycles; both the first and second cycles consisted of two linear-growth segments, and cells were oversized at the second constant-length stage. Elongating cdc2-33 cells that did not divide and were oversized while under observation, showed four linear-growth segments. Cells of all strains showed 30 to 40% increase in growth rate at the rate-change point and maintained approximate exponential (pseudo-exponential) growth. We conclude that the normal growth pattern of individual fission-yeast cells is the pseudo-exponential pattern.

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Initiation activity of endogenously synthesized *N*-nitrosobis(2-hydroxypropyl)amine in the rat liver.

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The initiation potential of *N*-nitrosobis(2-hydroxypropyl)amine (BHP) endogenously synthesized from precursor amines in the presence of sodium nitrite(SN) was investigated in the rat liver by quantitation of hepatocellular foci showing phenotypic expression of glutathion S-transferase placental form (GST-P). As a result putative preneoplastic GST-P-positive foci observed in the liver and increased dose-dependently in rats which had received bis(2-hydroxypropyl)amine(BHPA) and SN. The results indicate that endogenously synthesized BHP from BHPA and SN is capable of initiating neoplastic development in the rat liver.