

H201 The effect of IAA and IBA on Growth and Saikosaponin Biosynthesis in *Bupleurum falcatum* Hairy Root Culture

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Saikosaponins (Sa, Sc Sd) are major active compounds of *Bupleurum Radix* (root of *Bupleurum falcatum* L.), one of the famous Oriental drugs used mainly for the treatment of hepatic and related liver diseases. So, for mass production of this drug, we have established axenic hairy root culture system and reported the possibility (Ahn *et al.*, 1993, *J. of Plant Biol.*). In this study, we examined the effects of IAA (indole acetic acid) and IBA(indole butyric acid) on the growth rate and saikosaponin production with selected hairy root clone BFHR2. The growth rate increased under addition of all different concentration (0.01 mg/L ~ 5 mg /L) of IAA and IBA, however, the content of saikosaponins was low when compared to that of the control, 2RCM medium not containing exogenous hormone.

H202 The Effect of Magnetism on Growth and Tropane alkaloids Biosynthesis in *Hyoscyamus niger* Adventitious Root Culture

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Recently, we reported that far-infrared radiation bioceramics have beneficial effect on the growth and secondary metabolite productivity of some medicinal plants cultured *in vitro*. Also, we showed that there are differences in effects for some given type of ceramics which are different in composing ingredients and making-method, and these effects are connected with physical action rather than chemical action of ceramics. In this study, in order to understand the principles about the effects of soft-ferrite bioceramics containing Fe₂O₃ as major ingredients, we surveyed whether the magnetic field intensity affect the growth rate and secondary metabolites productivity of *Hyoscyamus niger* adventitious root or not. These results are that as magnetic field intensity increase, not only growth rate but also tropane alkaloid productivity are decreased. Therefore, this present that the physiological activation-activity of soft-ferrite bioceramics may be correlated with the other factor such as IR radiation rather than the magnetic intensity or Fe₂O₃ amount.