ABSTRACT

Shoot multiplication of lotus (*Nelumbo nucifera* Gaertn., Fam. Nelumbonaceae) through tissue culture technique was studied. Embryos and buds shoot were surface sterilized with 70% (v/v) ethyl alcohol for 1 min followed by 10 % (v/v) concentrated sodium hyperchloride solution for 20 min and followed by 0.1% (w/v) mercuric chloride and 2 drops of tween 20 for 10 min and then argitated in 5% (w/v) calcium hypochlorite and 2 drops of tween 20 for 30 min and then shaken in 1% (w/v) calcium hypochlorite and 2 drops of tween 20 for 10 min and rinsed three times in sterile distilled water for 5 min each. Embryos and buds shoot were cultured in liquid on solid media (double layer) of the ½ MS medium with 0.54 μM NAA and 4.44 μM BA.

The Phytochemical screening test of the lotus meristem cells was performed the main chemical compounds: alkaloids, phenolic compounds, terpenoids, steroids, flavonoids and coumarins. Thin Layer Chromatography technique (TLC) is used to separate chemical constituents of the methanolic lotus meristem cells extract. The best solvent system was benzene:chloroform:ethyl acetate (50:30:20). The main bio active chemical constutuents were alkaloids, phenolic compounds, terpenoids, steroids, flavonoids and coumarins. The methanolic lotus meristem cells extract contains more chemical compounds than the methanolic leaf blade extract, stamen extract, peduncle extract, seed extract, pod without seed extract, and petal extract.