

**PROTOCOL FOR CALLUS INDUCTION OF  
*Camellia japonica* L. (TEA ROSE)**

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## ABSTRACT

*Camellia japonica* L. is one of the best known species of the genus *Camellia* and considered as a kind of famous ornamental flower. This study was conducted to develop an efficient protocol for rapid and prolific callus induction of *Camellia japonica* (Tea Rose). Leaves, nodal segments and unopened flower buds flower petals were used as explants. Nine different combinations of 20% sodium hypochlorite and 70% ethanol with different soaking times were used to select the best sterilization method. The sterilized explants were cultured on MS medium with three different hormone combinations of 3-indolebutyric acid (IBA) and 6-benzylamino purine (BAP) to investigate the effect on callus induction. Cultures were maintained at  $25 \pm 2$  °C temperature under completely dark conditions in an incubator. Semi mature light green ( $1\text{cm}^2$ ) pieces of leaves sterilized using 20% sodium hypochlorite for 40 minutes and 70% ethanol for 60 seconds and pieces of semi mature light brown (1cm) nodal segments using 20% sodium hypochlorite for 45 minutes and 70% ethanol for 90 seconds showed pronounced effect which resulted 20% and 30% of contaminations respectively after one week of culturing. MS supplemented with 0.9% agar, 3% sucrose, 0.001% myo-inositol, with 1mg/L IBA and 2mg/L BAP was recorded better hormone combination for callus formation from *Camellia japonica* nodal segments within 19 days and MS supplemented with 0.9% agar, 3% sucrose, 0.001% myo-inositol, with 1mg/L IBA and 4mg/L BAP was recorded the better hormone combination for callus formation from pieces of *Camellia japonica* leaves within 25 days. Nodal callus showed watery, soft and light yellow in color and globular shape and leaf callus showed friable and greenish yellow in color. As a protocol for callus induction of *C. japonica* using leaves and nodal segments, above methods of surface sterilization and culture establishment can be used successfully.

**Key words:** *Camellia japonica*, Callus induction, BAP, IBA, browning