Induction of Embryogenic Callus in Grapes *(Vitis vinifera)*

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In vitro propagation of Grapes (*Vitis vinifera)* extends opportunities for increasing plant material for cultivation. This experiment was conducted to develop an efficient protocol for surface sterilization and callus induction from different explants of Grapes. Grape peduncle segments and fruit skins were used as explants. Different Clorox® concentrations and different soaking times were used to select the best surface sterilization method. The sterilized explants were cultured on MS medium supplemented with different hormone concentrations and combinations of NAA (Naphthalene Acetic Acid) — BAP (6- Benzyl Amino Purine), NAA— KIN (Kinetin), 2,4 —D (DicholoroPhenoxy Acetic Acid) - BAP and 2,4—D- KIN to investigate the effect on callus induction. Cultures were maintained at 25± 2 ℃ temperature under dark conditions in a culture room. The best surface sterilization of peduncles was achieved with 25 % Clorox with twenty minutes and the best surface sterilizataion of fruit skins was achieved with 2.5 % Clorox for one second. Peduncles are explants for high frequency callus induction than the fruit skins. Among the NAA and 2, 4 — D hormones, NAA is better for callus induction from peduncles and 2, 4 — D is better for callus induction from the fruit skins. 10 mg l' NAA + 0.5 mg l' BAP are best hormone combination for earlier callus formation and obtain higher volume callus from grape peduncles. As a protocol for callus induction of grapes using peduncles and fruit skins above methods of surface sterilization and culture establishment can be used successfully.

Keywords: Callus induction, NAA, BAP, KIN, 2, 4-D