Plantigen™ HIMEDIA

PRODUCT INFORMATION

# Carrot Callus Initiation Medium

## With Vitamins and 2,4-D
## Without Sucrose and Agar

**Product Code: PT089**

### Product Description :

Carrot Callus Initiation medium has been formulated to initiate the carrot callus from its tissue. It is a nutrient blend of inorganic salts that provides all the essential macronutrients, micronutrients, vitamins and plant growth regulators required for the establishment of the species.

High amount of potassium nitrate is effective in inducing somatic embryogenesis. Sodium dihydrogen phosphate serves as a source of phosphate and promotes root development and vigorous growth. Microelements like Boron, Molybdenum, Iron, Zinc and Manganese enhance metabolism in the plants. Boron plays a key role in carbohydrate metabolism and 2,4-D aids in callus formation.

The product is plant tissue culture tested but it is the sole responsibility of the user to ensure the suitability of the medium for individual species.

### Composition :

| Ingredients | mg/L |
|---|---|
| **MACROELEMENTS** | |
| Ammonium sulphate | 134.000 |
| Calcium chloride | 113.250 |
| Magnesium sulphate | 122.087 |
| Potassium nitrate | 2500.000 |
| Sodium dihydrogen orthophosphate | 130.417 |
| **MICROELEMENTS** | |
| Boric acid | 3.000 |
| Cobalt chloride hexahydrate | 0.025 |
| Copper sulphate pentahydrate | 0.025 |
| EDTA disodium salt dihydrate | 37.300 |
| Ferrous sulphate heptahydrate | 27.800 |
| Manganese sulphate monohydrate | 10.000 |
| Molybdic acid (sodium salt) | 0.213 |
| Potassium Iodide | 0.750 |
| Zinc sulphate heptahydrate | 2.000 |
| **VITAMINS** | |
| myo-Inositol | 100.000 |
| Nicotinic acid (free acid) | 1.000 |
| Pyridoxine HCl | 1.000 |
| Thiamine hydrochloride | 10.000 |
| **OTHERS** | |
| 2,4-Dichlorophenoxy acetic acid | 1.000 |
| **Total(gms/litre)** | 3.2 |

### Material required but not provided :

- Autoclaved distilled water
- Sucrose (PCT0607)
- Gelling agents like Agar (PCT0901) or CleriGel ™ (PCT0903)
- 1N NaOH/HCl

### Precautions :

- Ensure appropriate pH of the medium before addition of gelling agent as acidic pH will lead to decreased gelation resulting in semi solid flowing gel while alkaline pH will lead to formation of hardened gel.
- Use of Distilled water / Tissue culture grade water is recommended for media preparation as tap water or lower grade water may lead to salt precipitation and improper gelation.
- Avoid preparation of concentrated solutions, as it will lead to precipitation of salts.

### Directions :

- Reconstitute medium by adding required quantity of powder in two-third of total volume with constant, gentle stirring till the medium gets completely dissolved.
- Add heat stable supplements prior to autoclaving.
- Make up the final volume with distilled water.
- Adjust the pH of the medium to 5.75 ± 0.5 using 1N NaOH/ HCl.
- Add gelling agent and heat the medium to boiling till complete dissolution of gelling agent.
- Sterilize the medium by autoclaving at 15 lbs and 121°C for 15 min.
- Cool the autoclaved medium to about 45°C before adding heat labile supplements.

Please refer disclaimer overleaf

• Aseptically dispense the desired amount of medium under a laminar airflow unit in sterile culture vessels.

## Quality Control:

**Appearance**
White to off-white, homogenous, free flowing powder

**Solubility**
3.2 gms/litre soluble in distilled water

**Colour and Clarity**
Colourless to light yellow, clear solution

**pH at 25ºC**
3.50 - 4.50

**Plant Tissue Culture Test**
The growth promoting properties of medium is assessed by providing plant cultures with relative humidity of about 60%±2%, temperature 22ºC±2ºC and photoperiod of about 16:8. The plant species showed actively growing callus and shoots with no structural, necrotic and toxic deformity.

## Storage and Shelf Life:

• The plant tissue culture medium powder is extremely hygroscopic and must be stored at 2-8°C in air tight containers.
• Preferably, entire content of each package should be used immediately after opening.
• Use before the expiry date.

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