PRODUCT INFORMATION

Orchid Multiplication Medium

With Calcium Chloride, Vitamins, Sucrose, HiVeg™ Peptone, MES, 6-BAP and NAA Without Activated charcoal and Agar

Product Code: PT155

Product Description :

Orchid Multiplication Medium has been formulated for the effective multiplication of the orchid species.

The formulation is a nutrient blend of inorganic salts, vitamins, carbohydrate and plant growth regulators. It is supplemented with MES buffer which maintains optimum buffering in media and prevents acidification required for the growth of orchids. HiVeg™ peptone serves as an added source of reduced nitrogen. Microelements like Boron, Manganese, Molybdenum, Copper and Zinc enhance metabolism in plants. Thiamine, pyridoxine, nicotinic acid act as enzymatic cofactors in universal pathways including glycolysis and TCA cycle along with the primary and secondary metabolism in plants. 6-BAP aids in cell division and differentiation of the plant tissue while NAA promotes elongation of the cells along with rooting.

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 nitrate	825.000
Calcium chloride	166.100
Magnesium sulphate	90.340
Potassium nitrate	950.000
Potassium phosphate monobasic	85.000
MICROELEMENTS	
Boric acid	3.100
Cobalt chloride hexahydrate	0.013
Copper sulphate pentahydrate	0.013
EDTA disodium salt dihydrate	37.300
Ferrous sulphate heptahydrate	27.800
Manganese sulphate monohydrate	8.450
Molybdic acid (sodium salt)	0.106
Potassium Iodide	0.420
Zinc sulphate heptahydrate	5.300
VITAMINS	
myo-Inositol	100.00
Nicotinic acid (free acid)	0.500
Pyridoxine HCl	0.500
Thiamine hydrochloride	1.000
CARBOHYDRATE	
Sucrose	20000.000
OTHERS	
6-Benzylaminopurine	2.000
HiVeg™ Peptone	2000.000
Napthalene acetic acid	0.500
MES	1000.000
Total(gms/litre)	27.3

Material required but not provided :

- Autoclaved distilled water
- Plant growth regulators
- 1N NaOH/HCl
- Activated Charcoal
- Gelling agents like Agar (PCT0901) or CleriGel™ (PCT0903)

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.

• 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

27.3 gms/litre soluble in distilled water

Colour and Clarity

Colourless to light yellow, clear solution

pH at 25ºC

4.80 - 5.80

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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