PRODUCT INFORMATION

Knudson C Orchid Medium

With Sucrose
Without Vitamins and Agar

Product Code: PT006

Product Description :

Knudson C Orchid Medium consists of the macroelements and microelements as described by Knudson in 1946. The medium was originally developed for the *in vitro* germination of *Cymbidium* orchid seeds but can also be used for other species.

The formulation is a nutrient blend of inorganic salts and carbohydrate. Potassium dihydrogen phosphate acts as phosphate source. Ammonium sulphate and calcium nitrate serve as a source of nitrogen and help in the seed germination. Magnesium sulphate promotes photosynthesis and cell differentiation. Microelements like Manganese and Iron enhance metabolism and help in the germination.

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	500.000
Calcium nitrate hydrate	694.850
Magnesium sulphate	122.090
Potassium phosphate monobasic	250.000
MICROELEMENTS	
Ferrous sulphate heptahydrate	25.000
Manganese sulphate monohydrate	5.680
CARBOHYDRATE	
Sucrose	20000.000
Total(gms/litre)	21.6

Material required but not provided :

- Autoclaved distilled water
- Plant growth regulators
- 1N NaOH/HCl
- Vitamins (VP028)
- 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 the 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
21.6 gms/litre soluble in distilled water

Colour and Clarity
Colourless to light yellow, clear solution

Please refer disclaimer overleaf

pH at 25ºC
4.20 - 5.20
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.

Revision : 01 / 2017