

## Technical Information

### BM-2 Terrestrial Orchid Medium

#### With Vitamins, Sucrose, Casein hydrolysate, 6-BAP and Agar

**Product Code: PT1064**

**Application:** BM-2 Terrestrial Orchid Medium has been specially formulated for the *in vitro* culture of the terrestrial orchid. It is a nutrient blend of inorganic salts, vitamins, amino acid, carbohydrate and gelling agent. In addition, it is supplemented with casein hydrolysate which is ideal for improved germination, early protocorm formation and seedling development. L-glutamine and glycine serves as sources of organic nitrogen. Microelements like Manganese, Molybdenum, Copper, Iron and Zinc enhance metabolism in the plants. Boron plays a key role in the carbohydrate metabolism. Thiamine, pyridoxine, nicotinic acid act as enzymatic cofactors in universal pathways including glycolysis and TCA cycle along with the primary and secondary metabolism in the plants. 6-BAP aids in the cell division and differentiation of the plant tissue.

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/Litre
<b>MACROELEMENTS</b>	
Magnesium sulphate	100.000
Potassium phosphate monobasic	300.000
<b>MICROELEMENTS</b>	
Boric acid	10.000
Copper sulphate pentahydrate	0.025
Cobalt chloride hexahydrate	0.025
EDTA disodium salt dehydrate	37.250
Ferrous sulphate heptahydrate	27.850
Manganese sulphate monohydrate	25.000
Molybdic acid (sodium salt)	0.213
Zinc sulphate heptahydrate	10.000
<b>VITAMINS</b>	
Biotin	0.050
Folic acid	0.500
myo-Inositol	100.000
Nicotinic acid (free acid)	5.000
Pyridoxine HCl	0.500
Thiamine hydrochloride	0.500
<b>AMINO ACID</b>	
Glycine	2.000
L-Glutamine	100.000
<b>CARBOHYDRATE</b>	
Sucrose	20000.000
<b>GELLING AGENT</b>	
Agar	6000.000
<b>OTHERS</b>	
6-Benzylaminopurine	0.200
Casein hydrolysate	500.000
<b>Total</b>	<b>27.2 gms/litre</b>

### Material required but not provided

- Autoclaved distilled water
- Plant growth regulators
- 1N NaOH/HCl

### Quality Control

#### Appearance

White to off-white, homogenous, free flowing powder

#### Solubility

27.2 gms/litre soluble in distilled water

#### Colour and Clarity

Colourless to light yellow solution, hazy gel is formed on cooling

#### Gelling

Firm gel formed at pH :  $5.75 \pm 0.5$

#### pH at 25°C

5.20 – 6.20

#### Plant Tissue Culture Test

The growth promoting properties of medium is assessed by providing plant cultures with relative humidity of about  $60\% \pm 2\%$ , temperature  $22^\circ\text{C} \pm 2^\circ\text{C}$  and photoperiod of about 16:8. The plant species showed actively growing callus and shoots with no structural, necrotic and toxic deformity.

### 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  $5.75 \pm 0.5$  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  $121^\circ\text{C}$  for 15 min.
- Cool the autoclaved medium to about  $45^\circ\text{C}$  before adding heat labile supplements.
- Aseptically dispense the desired amount of medium under a laminar airflow unit in sterile culture vessels

### Storage and Shelf Life

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

### Disclaimer

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specifications for identity and performance parameters.

### 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.