BM-2 Terrestrial Orchid Medium
With Vitamins, Sucrose, Casein hydrolysate, 6-BAP and Agar

Product Code: PT064

Product Description:
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 serve 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:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MACROELEMENTS</strong></td>
<td></td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>100.000</td>
</tr>
<tr>
<td>Potassium phosphate monobasic</td>
<td>300.000</td>
</tr>
<tr>
<td><strong>MICROELEMENTS</strong></td>
<td></td>
</tr>
<tr>
<td>Boric acid</td>
<td>10.000</td>
</tr>
<tr>
<td>Cobalt chloride hexahydrate</td>
<td>0.025</td>
</tr>
<tr>
<td>Copper sulphate pentahydrate</td>
<td>0.025</td>
</tr>
<tr>
<td>EDTA disodium salt dihydrate</td>
<td>37.250</td>
</tr>
<tr>
<td>Ferrous sulphate heptahydrate</td>
<td>27.850</td>
</tr>
<tr>
<td>Manganese sulphate monohydrate</td>
<td>25.000</td>
</tr>
<tr>
<td>Molybdc acid (sodium salt)</td>
<td>0.213</td>
</tr>
<tr>
<td>Zinc sulphate heptahydrate</td>
<td>10.000</td>
</tr>
<tr>
<td><strong>VITAMINS</strong></td>
<td></td>
</tr>
<tr>
<td>Biotin</td>
<td>0.050</td>
</tr>
<tr>
<td>Folic acid</td>
<td>0.500</td>
</tr>
<tr>
<td>myo-Inositol</td>
<td>100.000</td>
</tr>
<tr>
<td>Nicotinic acid (free acid)</td>
<td>5.000</td>
</tr>
<tr>
<td>Pyridoxine HCl</td>
<td>0.500</td>
</tr>
</tbody>
</table>

Thiamine hydrochloride          0.500
AMINO ACID
Glycine                          2.000
L-Glutamine                      100.000
CARBOHYDRATE
Sucrose                          20000.000
GELLING AGENT
Agar                             6000.000
OTHERS
6-Benzylaminopurine             0.200
Casein hydrolysate              500.000
Total(gms/litre)                 27.2

Material required but not provided:
• Autoclaved distilled water
• Plant growth regulators
• 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.
• 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**
27.2 gms/litre soluble after boiling 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 ± 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%±2%, temperature 22°C±2°C 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