Plantigen™ HIMEDIA

PRODUCT INFORMATION

Gerbera Multiplication Medium

With Calcium chloride, Vitamins, Tyrosine, Sucrose, Adenine sulphate and CleriGel™

Product Code: PT002G

Product Description :

Gerbera Multiplication Medium has been developed on the basis of Murashige and Skoog medium for the *in vitro* multiplication of *Gerbera*, family *Asteraceae* (commonly known as daisy family). The formulation is a nutrient blend of inorganic salts, vitamins, carbohydrate, amino acid, plant growth regulator and gelling agent.

Gerbera Multiplication Medium contains all the essential macroelements and microelements. Potassium nitrate and ammonium nitrate provide nitrogen and is responsible for organogenesis. The mixture of cation and anion is responsible for optimum pH of the medium. Potassium dihydrogen phosphate and sodium dihydrogen phosphate serve as sources of phosphate. Microelements like Boron, Manganese, Molybdenum, Copper, Iron and Zinc play vital role in plant metabolism. Boron plays a key role in carbohydrate metabolism.Thiamine, inositol, pyridoxine and nicotinic acid act as enzymatic cofactors in the universal pathways including glycolysis and TCA cycle along with primary and secondary metabolism in the plants. Tyrosine serves as a source of amino acid. Growth regulator adenine sulphate helps in shoot proliferation and multiplication.

CleriGel™, a gellan gum is used as an alternative to agar. It offers several advantages over conventional agar as it sets a clear gel which assists easy observation of cultures and their possible contamination. Unlike agar, gel strength of CleriGel™ is unaffected over a wide range of pH and contains no contaminants like phenolic compounds that can be toxic to plant tissues. It solidifies uniformly and rapidly.

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	1650.000
Calcium chloride	332.200
Magnesium sulphate	180.690
Potassium phosphate monobasic	170.000
Potasssium nitrate	1900.000
MICROELEMENTS	
Boric acid	6.200
Cobalt chloride hexahydrate	0.025
Copper sulphate pentahydrate	0.025
EDTA disodium salt dihydrate	37.300
Ferrous sulphate heptahydrate	27.800
Manganese sulphate monohydrate	16.900
Molybdic acid (sodium salt)	0.213
Potassium iodide	0.830
Sodium phosphate monobasic	73.900
Zinc sulphate heptahydrate	8.600
VITAMINS	
myo-Inositol	100.000
Nicotinic acid (free acid)	10.000
Pyridoxine HCl	1.000
Thiamine hydrochloride	30.000
AMINO ACID	
L-Tyrosine (free base)	100.000
CARBOHYDRATE	
Sucrose	45000.000
GELLING AGENT	
CleriGel™	3000.000
OTHERS	
Adenine sulphate	80.000
Total(gms/litre)	52.7

Material required but not provided :

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

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.

Please refer disclaimer overleaf

• 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
52.7 gms/litre soluble after boiling in distilled water

Colour and Clarity
Colourless to light yellow solution, clear gel is formed on cooling

Gelling
Firm gel formed at pH: 5.75 ± 0.5

pH at 25ºC
5.00 - 6.00

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