PRODUCT INFORMATION

African Violet Multiplication Medium

With Vitamins, Sucrose, MES, Adenine sulphate, IAA and Kinetin Without Agar

Product Code: PT110

Product Description :

African Violet Multiplication Medium consists of macroelements and microelements as described by Murashige and Skoog and vitamins as described by Linsmaier and Skoog (1965). The medium has been developed for the multiplication of the *Saintpaulia ionantha* species, commonly known as African violet.

The formulation is a nutrient blend of inorganic salts, vitamins, carbohydrate and plant growth regulators. Potassium nitrate and ammonium nitrate provides nitrogen and helps to maintain pH of the medium. Potassium dihydrogen phosphate serves as source 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 and inositol act as enzymatic cofactors in universal pathways including glycolysis and TCA cycle along with primary and secondary metabolism in the plants. MES acts as a buffering agent while growth regulators adenine sulphate and kinetin help in shoot multiplication. IAA promotes cell elongation and induces 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	1650.000
Calcium chloride	332.200
Magnesium sulphate	180.690
Potassium nitrate	1900.000
Potassium phosphate monobasic	170.000
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	147.810
Zinc sulphate heptahydrate	8.600
VITAMINS	
myo-Inositol	100.000
Thiamine hydrochloride	0.400
CARBOHYDRATE	
Sucrose	30000.000
OTHERS	
Adenine sulphate	80.000
Indole-3-acetic acid	2.000
Kinetin	2.000
MES	4.000
Total(gms/litre)	34.7

Material required but not provided :

- Autoclaved distilled water
- 1N NaOH/HCl
- 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.

Please refer disclaimer overleaf

• 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
34.7 gms/litre soluble in distilled water

Colour and Clarity
Colourless to light yellow, clear solution

pH at 25ºC
3.30 - 4.30

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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