PRODUCT INFORMATION

Rugini Olive Medium

With Vitamins and Sucrose
Without Agar

Product Code: PT149

Product Description :

Rugini Olive Medium has been developed by E.Rugini in 1984 for the *in vitro* propagation of Olive, *Olea europaea*, family *Oleaceae*. The medium is specially used for species that are difficult to propagate *in vitro*. The formulation is a nutrient blend of inorganic salts, vitamins amino acid and carbohydrate.

Rugini Olive Medium provides all essential macroelements and microelements. Potassium nitrate and ammonium nitrate serve as sources of nitrogen. Calcium nitrate helps to maintain structural and functional integrity of cells and promotes direct organogenesis. Potassium dihydrogen phosphate and potassium chloride serve as sources of phosphate and enhance cell proliferation. Microelements like Boron, Manganese, Molybdenum, Copper, Iron and Zinc play vital role in plant metabolism. Boron plays a key role in carbohydrate metabolism. Thiamine, pyridoxine, nicotinic acid act as enzymatic cofactors in universal pathways including glycolysis and TCA cycle along with primary and secondary metabolism in the plants. Glycine serves as a source of amino acid. Folic acid and biotin aid in multiplication of shoots.

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	412.000
Calcium chloride	332.200
Calcium nitrate	416.920
Magnesium sulphate	732.600
Potassium chloride	500.000
Potassium nitrate	1100.000
Potassium phosphate monobasic	340.000
MICROELEMENTS	
Boric acid	12.400
Cobalt chloride hexahydrate	0.025
Copper sulphate pentahydrate	0.250
EDTA disodium salt dihydrate	37.300
Ferrous sulphate heptahydrate	27.800
Manganese sulphate hydrate	16.900
Potassium iodide	0.830
Sodium molybdate	0.213
Zinc sulphate heptahydrate	14.300
VITAMINS	
D-biotin	0.050
Folic acid	0.500
Nicotinic acid	5.000
Pyridoxine hydrochloride	0.500
Thiamine hydrochloride	0.500
myo-Inositol	100.000
AMINO ACID	
Glycine	2.000
CARBOHYDRATE	
Sucrose	30000.000
Total(gms/litre)	34.1

Material required but not provided :

- Autoclaved distilled water
- Plant growth regulators
- 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.
• 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
34.1 gms/litre soluble in distilled water

Colour and Clarity
Colourless to light yellow, clear solution

pH at 25ºC
3.50 - 4.50

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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