

CHU (N6) Medium

With Vitamins
Without Sucrose and Agar

Product Code: PT030

Product Description :

CHU (N6) Medium has been developed by C.C. *et al.* in 1975 for the *in vitro* anther culture of *oryza sativa* family *Graminae*. The medium helps in the initiation, growth and differentiation of callus from the rice pollen cultures.

CHU (N6) Medium is a nutrient blend of inorganic salts that consists of macroelements, microelements, vitamins and amino acid. Potassium nitrate serves as a source of nitrate. Ammonium sulphate quantity has been reduced as ammonium ions have inhibitory effect on growth and quality of the rice callus but aids in morphogenesis. Microelements like Boron, Manganese, Molybdenum, Copper, Iron and Zinc play vital role in plant metabolism and improves the quality of anther callus. 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.

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 sulphate	463.000
Calcium chloride	125.340
Magnesium sulphate	90.370
Potassium nitrate	2830.000
Potassium phosphate monobasic	400.000
MICROELEMENTS	
Boric acid	1.600
EDTA disodium salt dihydrate	37.300
Ferrous sulphate heptahydrate	27.800
Manganese sulphate monohydrate	3.330
Potassium Iodide	0.800
Zinc sulphate heptahydrate	1.500

VITAMINS

Nicotinic acid (free acid)	0.500
Pyridoxine HCl	0.500
Thiamine hydrochloride	1.000
AMINO ACID	
Glycine	2.000
Total(gms/litre)	4.0

Material required but not provided :

- Autoclaved distilled water
- Plant growth regulators
- 1N NaOH/HCl
- Sucrose (PCT0607)
- 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 the 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

4.0 gms/litre soluble in distilled water

Colour and Clarity

Colourless to light yellow, clear solution

pH at 25°C

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 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.

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Disclaimer :

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