

Gresshoff & Doy (DBM2) Macroelements Solution (10X)

PL005

Composition :

Ingredients	milligrams/100ml
Potassium nitrate	1000.00
Ammonium nitrate	1000.00
Calcium nitrate	241.11
Magnesium sulphate	17.09
Potassium phosphate monobasic	300.00
Potassium chloride	65.00
TOTAL gm/100ml	2.62

Directions :

Measure out approximately 600ml of distilled water. While stirring add 100ml of macroelements stock solution. Rinse the original bottle with a small volume of distilled water to remove traces of the solution. Add desired heat stable supplements prior to autoclaving. Adjust the medium to the desired pH using 1N HCl/NaOH. Make up the final volume to 1000ml with distilled water. Sterilize the medium by autoclaving at 15 lbs or 121°C for 15 minutes. Cool the autoclaved medium to 45°C before adding the filter sterilized heat labile supplements. Dispense the desired amount of medium in sterile culture vessels.

Principle and Interpretation :

Gresshoff & Doy (DBM2) macroelements (10X) is a filter sterilized stock solution. The stock contains macroelements as described by Gresshoff & Doy. Add 100ml per litre of macroelements stock solution to the prepared medium to achieve the desired concentration.

Quality Control:

Appearance	: Colourless to yellow, clear solution.
pH	: 4.2 ±0.5 of 100ml macroelements stock solution.
Sterility	: No bacterial or fungal growth is observed after 14 days of incubation, as per USP specification.

Cultural Response :

Cultural condition :

- Incubation period : 5 weeks
- Relative humidity : 60% \pm 2%
- Temperature : 22°C \pm 2°C
- Photoperiod (D: N) in hours : 16:8

Cell Line	Type of Culture	Results
<i>Musa</i> species	Shoot culture	No structural deformity observed No necrotic tissues, Actively growing shoots, No toxicity to shoots
<i>Daucus</i> species	Callus culture	No necrotic tissues, Actively growing callus, No toxicity to callus

[The medium is prepared as per direction. The growth promoting activity of this macroelements stock solution is evaluated using two plant species viz. *Musa* species and *Daucus* species through three passages. Plant growth hormones (e.g. 2,4-D, NAA, Kinetin and 6-BAP) are added in suitable combinations and concentrations.]

Storage and shelf life :

Store the macroelements stock solution at 2-8°C away from direct light. If possible, the entire content of each bottle should be used immediately, aseptically after opening or else the unused portion should be stored at 2-8°C. Avoid contaminating the liquid. Use before the expiry date.

Reference :

1. Gresshoff P.M. & Doy C.H., Z. Pflanzenphysiol., (1974), 73, 132 - 141

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