CDH

Product Specification

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Technical Information

Fern Micropropagation Medium

w/ Vitamins, NAA and Kinetin; w/o Sucrose and Agar

Product Code: PT1087

Composition**

Ingredients	mg/Litre
Potassium nitrate	1900.00
Ammonium nitrate	1650.00
Calcium chloride.$2H_2O$	440.00
Magnesium sulphate	180.69
Potassium phosphate monobasic	170.00
Sodium phosphate monobasic	221.71
Manganese sulphate.H_2O	16.90
Boric acid	6.20
Potassium iodide	0.83
Molybdic acid (sodium salt).$2H_2O$	0.25
Zinc sulphate.$7H_2O$	8.60
Copper sulphate.$5H_2O$	0.025
Cobalt chloride.$6H_2O$	0.025
Ferrous sulphate.$7H_2O$	27.80
EDTA disodium salt.$2H_2O$	37.30
myo - Inositol	100.00
Thiamine hydrochloride	0.40
α- Naphthalene acetic acid	0.10
Kinetin	2.00
Total	**4.76 gm/litre**

Principle And Interpretation

Fern Micropropagation medium has been specially formulated for the *in vitro* micropropagation of ferns. Ammonium nitrate and potassium nitrate serves as sources of nitrate. NAA and kinetin serves as plant growth regulators. Medium does not contain sucrose and agar; hence these components have to be added to the medium before use.

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Directions

Suspend 4.76 grams of dehydrated medium# in 600ml of distilled water and rinse media vial with small quantity of distilled water to remove traces of powder. Apply constant gentle stirring to the solution till the powder dissolves completely. 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 121ºC for 15 minutes. Cool the autoclaved medium to 45ºC before adding the filter sterilized heat labile supplements. Dispense the desired amount of medium aseptically in sterile culture vessels.

Weight after vacuum drying to remove all water

Quality Control

Appearance : White to off-white, homogeneous, free flowing powder.
Solubility : 4.63 gm/litre soluble in distilled water.
Colour and Clarity : Colourless to light yellow, clear solution.
pH at 25°C : 3.9 ±0.5 of 0.463% w/v dehydrated powder.

Cultural Response :

Cultural condition :

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

Cell Line	Types Of Culture	Results
Musa species	Shoot culture	No structural deformity observed No necrotic tissues, Actively growing shoots, No toxicity to shoots
Daucus 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 plant tissue culture medium is evaluated using two plant species viz. Artemisia 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

Dehydrated macroelements powder is extremely hygroscopic and should be protected from atmospheric moisture. If possible, the entire content of each bottle should be used immediately after opening or else the unused portion should be stored in a desiccator and refrigerated at 2-8°C. Use before the expiry date.

Further Reading

1. Murashige T. & Miller L.R., In Vitro, (1976), 12, 797 - 813

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
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