DKW / Juglans Medium **PT147**
w/ Vitamins & Sucrose;
w/o Agar

Composition :

Ingredients	milligrams/litre
Ammonium nitrate	1416.00
Calcium chloride.2H_2O	149.00
Calcium nitrate	1367.47
Magnesium sulphate	361.38
Potassium phosphate monobasic	265.00
Potassium sulphate	1559.00
Manganese sulphate.H_2O	33.50
Boric acid	4.80
Molybdic acid (sodium salt).2H_2O	0.39
Zinc nitrate.6H_2O	17.00
Copper sulphate.5H_2O	0.25
Ferrous sulphate.7H_2O	33.80
EDTA disodium salt.2H_2O	45.40
myo - Inositol	100.00
Thiamine hydrochloride	2.00
Nicotinic acid (Free acid)	1.00
Glycine (Free base)	2.00
Sucrose	30000.00

Directions :

Suspend 35.29 grams (the equivalent weight of dehydrated medium per litre) in 600 ml of distilled water. Rinse media vial with small quantity of distilled water to remove traces of powder if any. Dissolve the medium completely by gentle stirring. Add other heat stable plant nutrients as required prior to autoclaving. Adjust the desired pH using 1N HCl/NaOH. Make up the final volume to 1000 ml with distilled water. Mix well and sterilize by autoclaving at 15 lbs (121ºC) for 15 minutes. Cool the medium to 45ºC. Aseptically add any desired filter sterile growth nutrients if required. Mix well and aseptically dispense desired quantity in sterile culture vessels.

Principle and Interpretation :

DKW / Juglans medium has been specially formulated for plant cell, tissue and organ cultures. Ammonium nitrate and calcium nitrate serves as nitrate sources. Glycine serves as an amino acid source and sucrose as carbohydrate source. Medium does not contain gelling agents; hence these components have to be added to the medium before use.

Quality Control :

Appearance	: White to off-white, homogeneous, free flowing powder.
Solubility	: 35.29 gm/litre soluble in distilled water.
Colour and Clarity	: Colourless to light yellow, clear solution.
pH at 25°C	: 4.1 ±0.5 of 3.529% w/v dehydrated medium.

Cultural Response :

Cultural condition :

- Incubation period : 5 weeks
- Relative humidity : 60% ± 2%
- Temperature : 25°C ± 2°C
- Photoperiod (D:N) in hours : 16:8

Cell Line	Type 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. *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 :

Dehydrated plant tissue culture media 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.

Reference :

1. Driver J.A. & Kuniyuki A.H., Hort. Science, (1984), 19 (4), 507 - 509