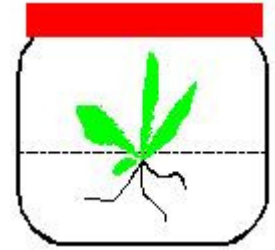


Kitchen Culture Kits Inc.
Protocols for the Hobbyist
www.kitchenculturekit.com
carolstiff@kitchenculturekit.com



“Bringing plant tissue culture to the classroom and home since 1998”

Protocols are intended to be used following methods described in the KCK Manual: “Plant Tissue Culture for the Classroom and Home” and the KCK workshop handout.

Handling Hormone Powders

Kitchen Culture Kits Inc. is now offering **pre-weighed powder hormones** in addition to our usual hormone solutions. The stability of some hormones in solution at ambient temperatures is not fully documented, and we were concerned that some hormone solutions could lose activity in transit. This could occur when packages are subjected to high temperatures or extended shipping time such as when shipments were delayed for many days to weeks.

The hormone powder is shipped using two bottles: one bottle has 100 mg dry hormone powder and the other bottle has 100 ml of 0.1 M KOH solution. Two one-milliliter transfer pipettes will also be included as well as the MSDS CD. The transfer pipettes are graduated in 0.25, 0.50, 0.75 and 1.0 ml and can be used when preparing media. These pipettes are the same ones typically included with our kits and supplies.

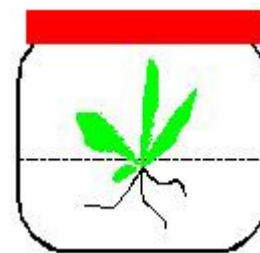
For TDZ, we will include a second bottle of 0.1 M KOH solution containing 90 ml. Since TDZ is used at much lower concentrations, this will enable diluting the 1 mg/ml solution to make a second bottle containing 0.1 mg/ml solution. With these, we will include a 5 ml dropper/pipet to transfer 10 ml of the 1 mg/ml solution to the 90 ml KOH solution thus making the new 0.1 mg/ml TDZ.

Preparation Instructions

- ***Prepare the hormone solution in a safe area away from people, pets, and food. Wear vinyl gloves and a dust mask. Read the MSDS first for safety recommendations.***
- Add the 100 ml of liquid KOH (0.1 M) SLOWLY to the bottle containing the powdered hormone.
- Replace cap tightly and shake well. Some hormones will dissolve quickly while others will take much longer. Continue shaking until all is dissolved.
- Once all is dissolved, add date to label and refrigerate. This is your 1 mg/ml hormone solution.
- If you purchased TDZ and want a more dilute solution, add 10 ml of your hormone solution to the 90 ml of KOH solution in bottle #2. Replace cap tightly and shake to mix.
- Label with date and refrigerate. This solution will be 0.1 mg/ml.



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Some hormones are stable for months in solution and others might be stable for only a few weeks. For many, this is not yet determined. Fresh solutions are best but not practical. **We recommend freezing all powder and refrigerating all solutions.** When using a solution, remove from refrigerator and dispense the amount needed into your media and then return promptly to refrigerator. These are recommendations we have received from others plus published references.

Plant Hormone/Growth Regulator Molar Values/Storage

HORMONE	MW	Milligrams in 1 μM	Suggested Storage Recommendations Powder	Suggested Storage Recommendations 1 mg/ml Solution
BAP	225	.225	36 months – RT	24 months - 2-8 ^o C
KINETIN	215	.215	48 months - Frozen	24 months - Frozen
2iP	203	.203	48 months - Frozen	24 months - Frozen
Metatopolin	241	.241	72 months - Frozen	24 months - Frozen
TDZ	220	.220	36-72 months - Frozen	6 months - Refrigerator
Zeatin	219	.219	36 months-Frozen	24 months - Frozen
<hr/>				
IAA	175	.175	48 months - Frozen	24 months - Frozen **Others: 3 days Refrigerator
IBA	203	.203	48 months - Refrigerator	24 months - Frozen
NAA	186	.186	36 months - RT	24 month - Refrigerator
24D	221	.221	60 months - RT	24 months - Refrigerator
<hr/>				
GA3	346	.366	Refrigerator	Refrigerator

Refrigerator temperatures are 2 - 8^oC (35-42^oF); Frozen temperatures are -20^oC (about -4^oF). Storage recommendations are courtesy of Caisson Laboratories Inc. Information on storage and co-autoclaving can be found at www.phytotechlab.com/pdf/PlantGrowthRegulatorsII.pdf . “The above recommendations are for informational purposes. End user assumes responsibility for determining proper usage.”