

STAINING TISSUES CONTAINING NEURONS WITH HIGH CONCENTRATIONS OF FLUORIDE RESISTANT ACID PHOSPHATASE

Material from Brain Research, 190 (1980) 17-28; copyright Elsevier/ North-Holland Biomedical Press: "Mapping and Plasticity of Acid Phosphatase Afferents In the Rat Dorsal Horn" by Marshall Devor and Deborah Claman from the Neurobiology Unit, Life Sciences Institute at the Hebrew University of Jerusalem, Jerusalem Israel

Solutions:

tris maleate buffer pH 5 (500ml)

To make a .2 Molar solution obtain 23.72 grams of tris maleate (MW=237.2 grams) and add ddH₂O until a volume of 500 ml is reached. Adjust to pH5.

Gomori medium (2 liters)

To make this solution add:

18.976 grams tris maleate (MW= 237.2) Add just enough ddH₂O to dissolve and adjust pH to 5 (final .04 M)

Then add:

3.456 grams Sodium B- Glycerophosphate (MW=216) (final 8mM)

1.590 grams lead nitrate (MW= 331.2) (final 2.4mM)

.0017 grams sodium fluoride (MW=41.99) (final .02 mM)

Add ddH₂O until a volume of 2 liters is reached

Store in a cool environment to avoid contamination

ammonium sulfate (500 milliliters)

To make a 1% solution obtain 5 grams ammonium sulfide (MW= 132.1) and add ddH₂O until a volume of 500 ml is reached.

Staining:

Freshly cut sections of tissue are washed in the .2M Tris maleate buffer (pH 5) 3 times.

Tissue is then incubated for 2-3 hours at 50 degrees C with the modified Gomori medium (see above)

Wash tissue with .2M Tris-maleate buffer (pH5) 2 times.

Tissue is reacted with 1% aqueous solution ammonium sulfate for 5 minutes.

Wash tissue with .2 M Tris-maleate buffer (pH5) 3 times.

Mount on glass slides.

Can lightly counter stain with cresyl violet.