DDK Italia

IVD dispositivo medico-diagnostico in vitro

CE

Periodic Acid Schiff (PAS) Hotchkiss-McManus technical information
Technical card code 14-122
Product code 14-122
Packs 1 kit 100 test or on request
Stability of reagents properly conserved at 4°C 12 months

Produce in Italy by
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in case of emergency UE number	☎	112
in case of emergency UK number	☎	999
en cas d'urgence Suisse	☎	145

Application.

To demonstrate normal and pathologic tissue components characterized by adjacent glycolic or aminohydroxylic groups.

Principle.

Periodic acid oxidizes selectively the following groups: 1,2 glycolic; primary aminic (1-hydroxy-2-aminic); secondary aminic (1-hydroxy-2-alkylaminic); 1-hydroxy-2-ketonic. Some methoxyl derivatives and alpha-ketones are oxidized as well, but they are not converted to aldehydes. During oxidating process, the links between carbon atoms in 1,2 position break and consequently aldehydic groups are formed. In the following reaction, sulphurous fuchsin in Schiff reagent changes these 2 contiguous aldehydic groups into a insoluble stained compound similar to basic fuchsin.

Three conditions are necessary for these reactions to take place:

1) hydroxylic groups must be free.
2) the compounds which form after oxidation must not spread in the tissue.
3) there must be enough aldehydic groups in the compounds for a histochemical survey.

Only macromolecules such as glycans and mucins are able to meet these demands. Periodic acid has been chosen as oxidizer because it arrests oxidation at aldehydic phase. Acid glycans do not react, except for monosulphuric heparin, since the presence of -SO3H group blocks reactive glycolic groups.
Fixation: Formalin buffered acetate. Sections: Paraffin 6 µm

Procedure: use acid cleaned glassware

Deparaffinize and hydratate to distilled water
Place sections in periodic acid for 8-10 minute (solution 1)
Wash in distilled water
Place in Schiff reagent for 15 minutes (solution 2)
Place sections in sodium metabisulphite 3 change 2 minute each (solution 3)
Wash in tap water for 15 minute
Counter stain in Mayer haemallum 8-10 minute (solution 4)
Wash in tap water for 5 minute
Dehydrate in ethanol clear in Xylene
Mount whit DdMount

Result

Glycogen, mucin, and some basement membranes	Red to purple
Fungi	Red to purple
Nuclei	Blue

Reagents

1. Periodic acid solution	30 ml
2. Schiff reagent Hotchkiss McManus	30 ml
3. Potassium metabisulphite solution	30 ml
4. Mayer's haemallum	30 ml

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* Notes.
Distilled water or tap water can be used for rinsing and moisturizing. Always check the pH of your tap water and chlorine levels before proceeding with any type of biological tissue and stain.

* Technical's note: staining time vary according to age, types of solutions, thickness of sections, et. When Gill (code 09-178) modified solution is used, get the best result, staining time (maximum 1-5 minutes), for best change in color, wash quickly in tap water, and then in Scott acidulated solution, (code 00-136). For sections fixed in Bouin, we recommend the use of haematoxylin modified acid AB (code 09-183). Please note the alcoholic loses eosin stain with the use, of the days are stretched over time colouring. If you are using purified eosin, check the time, and possibly diluted in ethyl alcohol 96°C, if the cytoplasmic staining was too strong. Before use, filter the following solutions; alcoholic eosin, eosin phloxine; Harris haematoxylin, Gill's haematoxylin. The acidified aqueous solution of eosin is prepared by slowly adding glacial acetic acid.

* Risk and Safety Statements outside the EU.
The eosin solution in alcohol is flammable and harmful. Harmful by inhalation, in contact with skin or if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with the skin or by ingestion. Irritating to eyes, respiratory system and skin. Keep away from sources of ignition - No smoking. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical attention immediately (show the label where possible). Target organs: eyes and nerves. Eosin in aqueous solution. Caution: substance not yet fully tested. Avoid contact and inhalation of the solution of Harris haematoxylin. Organs: heart and nerves. Solutions based hemallum are harmful. Harmful if swallowed. Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Wear suitable protective clothing. Organs affected: liver and kidneys. In case of accident or if you feel unwell, seek medical attention immediately (show the label where possible).

* Risk and Safety Statements (U.E.)
The eosin solution in alcohol is highly flammable and harmful. Highly flammable. Harmful by inhalation, in contact with skin or if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with the skin or by ingestion. Keep away from sources of ignition - No smoking. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical attention immediately (show the label where possible). Eosin in aqueous solution. Caution: Substance not yet fully tested. Solution of hemallum. Do not breathe vapors. Avoid contact with skin and eyes. Gill haematoxylin Solutions are harmful. Harmful if swallowed. Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Wear suitable protective clothing.

Endnotes
1 The timing suggested in the leaflet are approximate and may vary according to your specific needs. If they are used intensively, for staining solutions may lose their dyes, so it is necessary to extend the time of staining solutions, or replace with new products.
2. Include positive control slides in each session.
3. Some hydraulic systems deliver acidic water, unsuitable for use for the part of the procedure for the blue coloration. If tap water is acidic, instead using a dilute alkaline solution, for example, water buffered by Scott.
4. The presence of purple or red-brown nuclei a blue color indicates unsatisfactory.
5. If you over-eosin staining, nuclear staining may be masked. If done correctly, with eosin staining shows a three-tone effect. To increase the differentiation of eosin, extend the time of immersion in alcohol, or use a first alcohol with a higher water content. You can adjust the times of immersion in alcohol to obtain an adequate eosin staining.
6. We do not recommend the addition of stock solution in the working solutions of haematoxylin and eosin.
7. Avoid excessive drag (carryover) of water solutions in alcoholic eosin.
8. The data generated by this procedure are to be used only to support the diagnosis and should be evaluated in conjunction with other tests and diagnostic data

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