FEULGEN
reaction for DNA
04 - 120802

**Expected aim**
Product for the preparation of cyto-histological samples for optical microscopy.

**Application**
Demonstration of DNA in tissue sections.

**Principle**
The method is divided into two parts:
- Acid hydrolysis (5N HCl, ambient temperature, 40 minutes), designed to separate selectively 2 purine bases, namely adenine and guanine, from DNA molecule
- Staining of apurinic acid resulting from hydrolysis with Schiff reagent. This reagent can be used since free deoxyribose changes to aldehyde in acid environment. Feulgen reaction is highly selective for DNA. In fact, RNA does not react because the presence of a hydroxyl on carbon 2 of ribose prevents HCl from hydrolising sugar. Moreover, this reaction allows a very precise localisation of DNA since, after purine bases have been removed, deoxyribose radicals are bound to phosphoric acid of apurinic acid macromolecule. A positive reaction can be said to have taken place on 2 conditions:
  1) after acid hydrolysis, Schiff reagent succeeds in staining specimen;
  2) Schiff reagent does not succeed in staining a control section from the same preparation which has not undergone hydrolysis.

**Method**
1) Bring section to distilled water.
2) Put on the section 10 drops of reagent A, leave to act 40 minutes.
3) Double washing in distilled water.
4) Put on the section 10 drops of reagent B: leave to act 10 minutes.
5) Drain the slide without washing and put on the section 10 drops of reagent C: leave to act 2 minutes.
6) Drain the slide without washing and put on the section 10 drops of reagent D: leave to act 3 minutes.
7) Wash in running tap water for 5 minutes.
8) Dehydrate through ascending alcohols; clear in xylene and mount.

**Results**
DNA ........................................................................................................................... Magenta red

**Reagents**
A) Hydrochloric acid solution 5N ................................................................. 30 ml
B) Schiff Reagent according to Feulgen .......................................................... 30 ml
C) Sodium thiosulphate solution ..................................................................... 30 ml
D) Fixative solution ......................................................................................... 30 ml

**Warning and precaution**
The product must be used exclusively by specialized technical operators.
The product is classified as hazardous.
Read with attention the information written on the label (dangerous symbols, risks and safety phrases).
Consult always the safety data sheet where the information about the risks of the preparation, precautionary measures during use, first aid and disposal are available. Do not use if primary packaging is damaged.

**Storage**
Store the preparation at 2 - 8°C. Keep the containers tightly closed.

**Stability**
After the first opening, the product is usable until the expiry date, if correctly stored.
Disposal

Hazardous preparation: observe all state and local environmental regulations regarding waste disposal.

References


120802/L the kit is available with components in size of 1000 ml on request

Date of issue: June 2013