2C-160

Haematoxylin, Boehm's solution
In-vitro diagnostic agent

Description

The product 2C-160 is a ready-to-use solution for professional users in histology and cytology. It is an aqueous dye solution mixed with potassium aluminium sulphate dodecahydrate. The product comes in 4 different pack sizes: 2C-160.00100 (100ml bottle), 2C-160.00250 (250ml bottle), 2C-160.01000 (1l bottle) and 2C-160.10000 (10l canister).

Main components

Deionised water (CAS no.: 7732-18-5)	900 ml
Ethanol denatured (CAS no.: 64-17-5)	100 ml
Haematoxylin (C.I.: 75290)	10g/l
Potassium aluminium sulphate dodecahydrate (CAS no.: 7784-24-9)	100g/l

Purpose

The "Haematoxylin, Böhmer solution" is used for cell diagnostics for the examination of histological samples (e.g. histological sections), for staining cell nuclei. The dye solution is intended for professional users.

Sample material and sample preparation

Sampling may only be carried out by qualified personnel. All samples must be processed with state-of-the-art technology. All samples must be clearly labelled.

Sample material: Sections of human tissue after fixation, for example by buffered formol and fixation mixtures with ethanol and formalin and subsequent embedding in paraffin or frozen sections, as well as clinical material from cytology.

Test principle

The basis of haemalaun staining is first the oxidation of haematoxylin to haematein. The addition of potassium aluminium sulphate dodecahydrate leads to a complexation of the metal ions with the haematein, resulting in a connection of the positively charged aluminium-haematein complex with the negatively charged phosphatases of the nuclear DNA. The chromatin of the cell nuclei turns blue.

Staining

Before staining, deparaffinise the sections and transfer them to distilled water via a descending ethanol series. The colouring can be progressive or regressive. In progressive staining (especially for haemalaun), after staining with haematoxylin solution, the excess colour of the samples is washed out by rinsing in distilled water. The dye is then converted into a water-insoluble varnish by rinsing in tap water. In regressive staining (especially for iron haematoxylins), the samples are first overstained and differentiated by subsequent rinsing in hydrochloric acid solution.
The samples are then transferred to xylene via an ascending ethanol series. The samples can be covered with a synthetic covering medium for subsequent microscopy.
To ensure the differentiability of the target structures, suitable control specimens should be kept along with the staining.

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The usual staining protocols known from literature must be used. Staining may only be carried out by qualified personnel.

Result

Cell nuclei	blue

Precautionary measures

When removing the product, care must be taken to avoid contamination of the storage vessel. Once the solution has been removed, it must not be returned to the canister. If turbidity or solids appear, discard the product. The product is intended for single use and must not be reused.

Storage and shelf life

Store the unopened containers in a dry place at 15 to 25 °C, avoiding direct sunlight.
The shelf life is 2 years. See also the best-before date (BBD) on the label. Once the containers have been opened, the shelf life corresponds to the best-before date, as long as the storage conditions are observed and the solution is handled properly.

Safety notice

If any serious incidents occur in connection with the product, please report them to the manufacturer and the national authority.

Literature

Romeis, Mikroskopische Technik, Editors: Maria Mulisch, Ulrich Welsch, 2010, Springer Spektrum, 18th edition