Amylase Solution (1%, pH 5.3)

Cat #: A-CSH288

Size: 100mL

Storage: 2-8 °C, Avoid exposure to light (1 year)

Product Description

Component	Size	Store at
Amylase solution (1%, pH 5.3)	100ml	2-8 °C, Avoid exposure to light

Glycogen staining is a routine staining method in pathology. The periodic acid-Schiff (PAS) technique, first introduced by McManus in 1946 to demonstrate mucins, is commonly used to visualize glycogen and other polysaccharides. This staining reagent not only stains glycogen but also stains neutral mucinous substances, certain acidic substances, as well as cartilage, pituitary glands, molds, fungi, pigments, amyloid-like substances, and basement membranes. The PAS technique is the only method capable of detecting various types of mucinous substances, such as glycogen, mucins, and glycoproteins. However, it cannot differentiate between mucins and glycogen. To accurately identify mucinous substances (such as mucins or glycogen), a glycogen digestion step needs to be included. In most cases, alpha-amylase or malt amylase can be used to catalyze the hydrolysis of glycogen glycosidic bonds, forming water-soluble disaccharide maltose. This allows the removal of glycogen from tissue sections before applying the PAS technique.

The amylase solution (1%, pH 5.3) consists of amylase and phosphate and is primarily used for pretreatment of tissue sections before glycogen PAS staining. During glycogen digestion, two identical sections are required. After deparaffinization, one section is treated with the amylase solution (1%), while the other is treated only with PBS or distilled water as a control. Both sections are then subjected to PAS staining. Disappearance of staining after digestion indicates the presence of glycogen.

Usage

1. Prepare two identical sections, deparaffinize with xylene, and rehydrate with a graded ethanol series into water.

2. Treat one section with the amylase solution. Leave the other section untreated and place it in water as a control.
3. Rinse both sections with running water.
4. Proceed with the steps for glycogen PAS staining.

Notes

1. Ensure thorough deparaffinization of the sections to achieve optimal staining results.
2. Use a positive control slide to verify the activity of the enzyme.
3. Avoid excessive exposure to sunlight and air. It is recommended to take out the solution in advance and allow it to reach room temperature in a dark place before use.
4. Keep the staining time for frozen sections as short as possible.
5. For your safety and health, please wear laboratory attire and disposable gloves during the procedure.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.