



Alcian Blue stain kit [pH 1.0]

Alcian blue is a copper-titanium cyanine conjugate dye that was originally used for dyeing textile fibers. This cationic dye combines with acidic groups, that is, Alcian blue forms an insoluble complex with anionic groups such as carboxyl and sulfate groups contained in tissues. Alcian blue is composed of a central copper-containing phthalocyanine ring connected to four isothiurea groups through thioether bonds. The isothiurea group is moderately alkaline, making Alcian blue cationic. The exact mechanism by which Alcian blue colors carbohydrates is unknown, and it is generally believed that the cationic isothiurea group is connected to the polyanions in the tissue through electrostatics. For example, the carboxyl and sulfate groups of acidic mucus substances containing carboxyl and sulfate groups form an insoluble complex, that is, the positively charged salt bond in the dye molecule and the negatively charged acidic group in the acidic mucus substance combine to form a blue color. When the pH value is 1.0, the sulfate groups in the tissue are ionized, with a negative charge, forming salt bonds with the cations in Alcian blue, and staining tissues with sulfate groups (such as sulfated mucus substances). Neutral mucins (such as neutral mucins in gastric mucosa and Brunner glands) cannot react with Alcian blue.

The kit is mainly composed of Alcian Blue dye solution [pH 1.0] and Nuclear Fast Red counterstain solution. Carboxyl and sulfated mucins are stained blue, and nuclear fast red counterstains the cell nucleus in red.

Catalog No.	261017
Size	3 x 50mL
Product Category	Histochemical Stain
Storage/Stability	Ambient/6 months
Shipping	Ambient

