

## Alcian Blue 8GX

**Cat:** IA2460

**Storage:** RT, 2 years.

### Introduction

Alcian Blue 8GX, also known as Alcian Blue, is a kind of copper-titanium cyan conjugated dye. This cationic dye binds to acidic groups, that is, Alcian Blue forms an insoluble complex with anionic groups such as carboxyl and sulfate groups contained in the tissue. Alcian Blue is composed of a central copper-containing phthalocyanine ring and four isothiourea groups connected by a thioether bond. The isothiourea group is moderately alkaline, making alixin blue band cation. The exact mechanism of Alcian blue coloring carbohydrates is unknown. It is generally believed that the cationic isothiourea group is connected to the polyanion in the tissue by electrostatic. For example, the carboxyl and sulfate of the acidic mucus containing carboxyl and sulfate 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 are combined in blue.

The different pH of the dye solution can be used to distinguish the types of mucus substances :

At pH 2.5, the carboxyl group in the tissue is ionized, with a negative charge, and forms a salt bond with the cations in Alcian blue. It is stained with tissues with carboxyl groups (such as proteoglycan / hyaluronic acid and epithelial acidic mucin).

When the pH1.0, the sulfate in the tissue is ionized, with a negative charge, forming a salt bond with the cation in alixin blue, so that the tissue with sulfate (such as sulfuric acid mucus substance) is stained. Neutral mucins (such as neutral mucins in gastric mucosa and Brunner gland) could not react with alcian blue.

Cartilage staining: when the pH1, the carboxyl group (COOH) was not stained, and the sulfate group (OSO<sub>3</sub>H) was stained. When the pH2.5, the carboxyl group was stained well and the sulfate mucus was not stained well, so that the sulfate mucin and salivary mucin were stained.

### Parameter

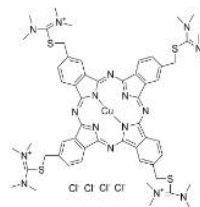
CAS: 33864-99-2

Molecular Formula: C<sub>56</sub>H<sub>68</sub>Cl<sub>4</sub>CuN<sub>16</sub>S<sub>4</sub>

Molecular Weight: 1298.86

Appearance: Purple to black Solid

Solubility: Soluble in Water ≥ 3mg/mL



### Note

1. For your safety and health, please wear experimental clothes and wear disposable gloves.
2. This product is for scientific research only. Do not use in medicine, clinical diagnosis or treatment, food and cosmetics. Do not store in ordinary residential areas.

### Related Literature

[1]. Zhu Q, et al. OTUB1 promotes osteoblastic bone formation through stabilizing FGFR2. Signal Transduct Target Ther. 2023 Apr 7;8(1):142. doi: 10.1038/s41392-023-01354-2. (IF: 38.1040)

**Note:** See more information on <http://www.solarbio.com/>