

Safranin-Fast Green Staining Solution for Bone Tissue

Cat. No.: B1511536 | Pack size: 3 x 100 mL | Storage: Room temperature

Overview

This staining set differentiates cartilage and bone tissue by sequential Fast Green, acid ethanol differentiation, and Safranin O staining.

Cartilage binds the basic dye Safranin O and appears red or orange-red, while bone/osteogenic tissue binds Fast Green and appears green, creating clear contrast for microscopy and image analysis.

Key Features

- Differential staining of cartilage and bone tissue
- Safranin O signal reflects proteoglycan-rich cartilage matrix
- Fast Green counterstain provides green/blue contrast for bone or acidophilic tissue
- Ready-to-use three-component set
- For microscopy research use only

Product Specifications

Parameter	Specification	Notes
Product name	Safranin-Fast Green Staining Solution for Bone Tissue	Bone tissue Safranin O-Fast Green stain set
Cat. No.	B1511536	Available pack size: 3 x 100 mL
Grade	BioReagent; Biological Stain; for microscopy	Research use only
Storage	Room temperature	Shelf life: 12 months
Expected result	Cartilage red/orange-red; osteogenesis green	Use image analysis software as needed

Product Contents & Storage

Cat. No.	Component	3 x 100 mL	Storage
B1511536A	Fast Green Staining Solution	100 mL	RT
B1511536B	Acid Ethanol Differentiation Solution	100 mL	RT
B1511536C	Safranin O Staining Solution	100 mL	RT

Shelf life: Stable for 12 months at room temperature.

Materials Required But Not Supplied

Item	Recommended Specification	Purpose
10% formalin fixative	User-supplied	Tissue fixation
Decalcifying solution	User-supplied	Bone sample processing
Distilled water and graded ethanol	Fresh solutions	Rehydration/dehydration
Xylene or eco-friendly dewaxing/clearing agent	Compatible with paraffin sections	Dewaxing and clearing
Neutral balsam or mounting medium	Compatible with stained sections	Mounting
Microscope	Bright-field microscope	Observation and imaging

Preparation Before Use

1. Bring all reagents to room temperature before use and mix gently if necessary.
2. Prepare paraffin sections from fixed and decalcified specimens and dewax/rehydrate them completely before staining.

Protocol

1. Fix specimens in 10% formalin, decalcify, prepare paraffin sections, dewax with xylene or dewaxing/clearing agent, and rehydrate to water.

2. Stain with Fast Green Staining Solution for 1-5 min.
3. Differentiate rapidly in 1% hydrochloric acid ethanol for 10-15 sec, then rinse briefly with tap water.
4. Stain with Safranin O Staining Solution for 2-5 min.
5. Dehydrate rapidly in anhydrous ethanol four times, 3-5 sec each. After the fourth dehydration, cartilage should appear red and the background should be colorless.
6. Clear with xylene or eco-friendly clearing agent, mount with neutral balsam, examine microscopically, and perform image acquisition/analysis.

Expected Results

Target / Structure	Expected Color
Cartilage	Red or orange-red
Osteogenesis / bone tissue	Green
Connective tissue	Red

Safety & Precautions

- If nuclear staining is required, iron hematoxylin staining is recommended for strong nuclear contrast.
- Avoid prolonged staining in Safranin O Staining Solution; excessive staining may mix with green and produce a purplish-blue color.
- Wear a lab coat and disposable gloves during operation.

Read the current SDS before use. Wear lab coat, gloves, and eye protection. Handle reagents according to local laboratory safety and EHS procedures.

Quality Control

QC Item	Method	Acceptable Range
Component completeness	Visual inspection on receipt	All components and volumes match the Product Contents & Storage table; lot number and expiry date legible.

QC Item	Method	Acceptable Range
Staining performance	Pilot staining with a representative sample	Expected target color and tissue/cell contrast are observed under the recommended microscope settings.
Reagent appearance	Visual inspection before use	No heavy precipitate, leakage, or abnormal turbidity beyond normal dye characteristics. Filter dye solution if required by protocol.

Troubleshooting

Issue	Possible Causes	Corrective Action
Weak or absent staining	• Insufficient staining time • Over-differentiation or excessive destaining • Reagent deterioration or incorrect working solution	• Extend staining time within the recommended range • Reduce differentiation/destaining time • Prepare fresh working solution and protect light-sensitive dyes from light
High background or overstaining	• Excessive staining time • Incomplete washing • Thick or uneven sections/smears	• Shorten staining time or increase differentiation • Wash thoroughly with water or ethanol as specified • Prepare thinner, even sections/smears
Uneven staining	• Incomplete dewaxing/rehydration • Slides contaminated with acid/alkali or oil • Sample thickness inconsistent	• Repeat dewaxing and graded rehydration • Use clean glassware and fresh solutions • Optimize section thickness and sample mounting

Recommended Applications

Research staining and analysis of bone/cartilage tissue sections.

Contact & Global Offices

Whether you have a technical question, need help with a quotation, or want to inquire about an order, our regional teams are ready to assist. Please contact the office for your region; for general inquiries, use the North American sales and customer service contacts below.

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Limitations & Disclaimer

For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, household, or other unauthorized uses.

This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals.

Where any reagent or component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS), product label, and approved specifications take precedence over this document for handling, storage, transport, and disposal.

Performance depends on sample type, sample condition, handling, storage, and operator technique. Users are responsible for validating this product for their specific application.