Alcian Blue Staining Kit
(ABlue)
Cat. No.8378

Product Description

Alcian Blue is a dye that stains sulfated proteoglycan present in cartilage tissues, which is an indicator cell chondrogenesis. This kit contains 1% Alcian Blue Solution, 0.1% Nuclear Fast Red in convenient, ready-to-use solutions. At pH 2.5, Alcian Blue stains acid mucopolysaccharides and shows a blue color, while Nuclear Fast Red stains nuclei pink to red and cytoplasm pale pink [1].

Kit Components

Cat. No.	# of vials	Name	Quantity	Storage
8378a	1	1% Alcian Blue Solution	100 mL	Room temperature
8378b	1	0.1% Nuclear Fast Red	100 mL	Room temperature
8378c	1	3% Acetic Acid	100 mL	Room temperature
8378d	1	Xylene Substitute	100 mL	Room temperature

Materials Supplied by User
Formaldehyde-fixed and paraffin-embedded tissue sections
Ethanol (100%, 95%, 70%, 50%)
Deionized H_2O (diH_2O)

Product use
This kit is for research use only. Not for use in animals, humans, or diagnostic procedures.

Shipping
Room temperature.

References
[1] Steedman, H.F. (1950). Alcian blue 8GS: A new stain for mucin. *Quarterly Journal of Microscopic Science, Vol 91*, p477-479.

Procedures

1. Deparaffinize and hydrate slides:

   1) Deparaffinize the tissue sections in Xylene Substitute (# 8378d), 3 changes of 5 minutes per change.
   2) Hydrate in 100% ethanol, 2 changes of 2 minutes per change.
   3) Hydrate in 95% ethanol, 2 changes of 2 minutes per change.
   4) Hydrate in 70% ethanol for 2 minutes.
   5) Hydrate in 50% ethanol for 2 minutes.

6) Rinse in diH_2O for 5 minutes.

2. Incubate in 3% Acetic Aicd (# 8378c) for 3 minutes.

2. Stain in 1% Alcian Blue Solution, pH 2.5 (# 8378a) for 30-60 minutes.

3. Wash in running tap water for 2 minutes and rinse in diH_2O.

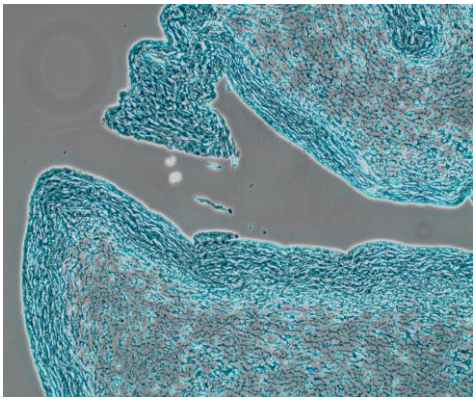
4. Stain in 0.1% Nuclear Fast Red (# 8378b) for 10-20 minutes.

5. Wash in running tap water for 1 minute and rinse in diH_2O for 2 minutes.

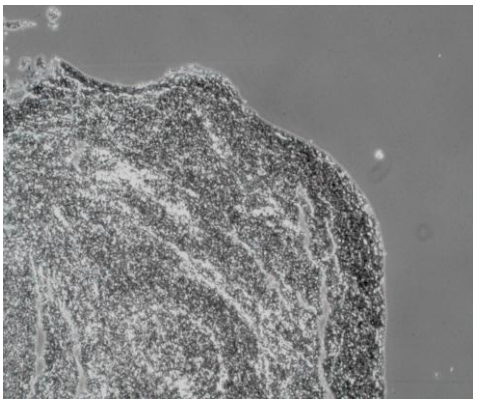
6. Dehydrate and clear slides:

1) Dehydrate in 95% ethanol, 2 changes of 2 minutes per change.
2) Dehydrate in 100% ethanol, 2 changes of 2 minutes per change.
3) Clear the tissue sections in Xylene Substitute (# 8378d), 2 changes of 2 minutes per change.

7. Mount the tissue sections and observe under microscope.



(a)



(b)

Figure 1. (a) Human Dermal Fibroblasts-fetal (HDF-f, Catalog # 2300) were cultured as pellets in growth medium, complete Fibroblast Medium (FM, Catalog # 2301) for 50 days. The pellets were fixed in 4% paraformaldehyde and sectioned. Alcian Blue staining was not detected (Magnification: 10X).

(b) HDF-f were cultured as pellets in complete MSC Chondrogenic Differentiation Medium (MCDM, Catalog # 7551) for 50 days. The pellets were fixed in 4% paraformaldehyde and sectioned. Alcian Blue staining demonstrated the presence of cartilage in cells (Magnification: 10X).