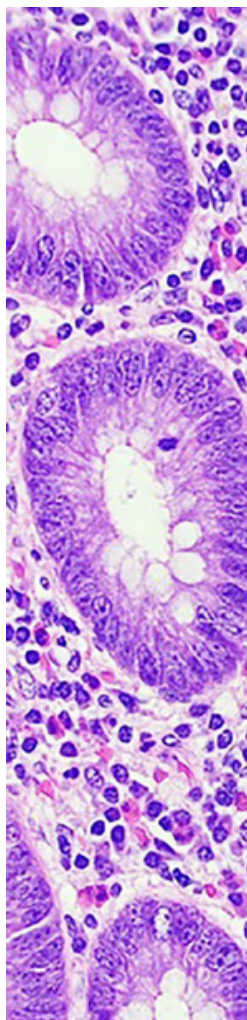




The stains and reagents in the Rankin Hematoxylin and Eosin Staining System undergo rigorous analytical chemistry and performance testing to ensure consistent, reliable results. These tests measure how the stains and reagents react at the time of staining, the overall quality, slide throughput, and lifespan of the stains and reagents are determined through in-depth chemical analysis.



Our staining procedure, the Rankin Hematoxylin and Eosin Staining System, has been meticulously standardized to deliver detailed and effective results in nuclear chromatin and cytoplasmic structures. Unlike some other staining systems used in histology labs, each component of the Rankin Hematoxylin and Eosin Staining System is chemically engineered to complement one another, although each stain and reagent can also function independently.



	500mL	4 x 500mL	1 Gallon	4 x 1 Gallon
HEMATOXYLIN	6401-500	6401-4X500	6401-1G	6401-4X1
EOSIN-Y	6402-500	6402-4X500	6402-1G	6402-4X1
EOSIN-Y PHLOXINE	6403-500	6403-4X500	6403-1G	6403-4X1
DIFFERENTIATOR			6404-1G	6404-4X1
BLUING REAGENT			6405-1G	6405-4X1

RANKIN HEMATOXYLIN



The Rankin Hematoxylin is a universal stain that has been chemically engineered to produce quality results on a consistent basis with crisp, delineated detail. This hematoxylin can be used on all automatic stainers and used in manual staining. Nuclear staining intensity and density can be increased or decreased progressively by increasing or decreasing staining time by 1/2 minute intervals. Generally, after six minutes of staining time, nuclear intensity and density is not increased.

Rankin Hematoxylin offers a strong competitive benefit over other hematoxylin, including its proprietary design to be used as a progressive or regressive nuclear stain. When used for routine hematoxylin and eosin staining, Rankin Hematoxylin is used as a regressive stain; for frozen sections, progressive. On occasion, it is used as a progressive or regressive stain for special stains, and regressive for immunohistochemistry (IHC).

When used as a nuclear counter stain in IHC, it should be noted that Rankin Hematoxylin is compatible with 3,3'-Diaminobenzidine (DAB) and 3-Amino-9-thylcarbazole (AEC), used as chromogens in the staining procedures.

Rankin Hematoxylin has been oxidized for maximum performance and contains a stable dye-lake component that does not crystalize. The dye-lake solvent suppresses precipitate and the formation of a metallic sheen. It does not require filtering prior to use and does not form crystals upon long-term storage or shipping in cold weather. This feature contributes to consistent reliable results slide after slide, day after day, week after week and consistent reliable slide through-put even after long term storage. Rankin Hematoxylin contains no mercury and has a shelf life of eighteen month at room temperature.

CODE	VOLUME	QUANTITY
6401-500	500 mL	Single Bottle
6401-4X500	500 mL	Pack of 4
6401-1G	1 Gallon	Single Bottle
6401-4X1G	1 Gallon	Pack of 4

Rankin Biomedical Corp.

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RANKIN
EOSIN-Y
ALCOHOLIC



The Rankin Alcoholic Intensified Eosin-Y has the attributes of traditional Eosin-Y stains with the exception of its pH balanced technology. Intensified eosin-Y features a pH range of 4.6 to 5 results in eosin staining, three shades of pink to red and resolves the problem of inconsistent eosin staining. When the pH of eosin is below pH 4 it binds nonspecifically to proteins causing the stained cytoplasm to appear muddy.

Rankin Alcoholic Eosin-Y produces a wide range of color intensities and staining brilliance. Resolving the problem when working with a number of pathologists that require different cytoplasmic staining intensities. Staining time intervals of fifteen seconds to one minute will progressively increase the contrast and density of the stained cytoplasm. Intense bright eosin staining is achieved by a brief rinse in 80% or 70% alcohol directly after eosin and then proceed to anhydrous alcohols for complete dehydration prior to clearing. Pastel cytoplasmic eosin staining is achieved by reducing staining time in the eosin (fifteen seconds to one minute) and then proceeding directly to anhydrous alcohols prior to clearing.

This stain may be used on all automatic stainers as well as in manual staining. Rankin Eosin-Y is a universal stain and may be used with standard hematoxylin and eosin staining procedures as well as frozen section staining. It is designed to provide superior contrast between cytoplasmic components and nuclear chromatin.

Strict quality assurance standards of analytical chemistry and performance testing confirms consistent results will be achieved by the end-user throughout the product's extended shelf life of two years.

CODE	VOLUME	QUANTITY
6402-500	500 mL	Single Bottle
6402-4X500	500 mL	Pack of 4
6402-1G	1 Gallon	Single Bottle
6402-4X1G	1 Gallon	Pack of 4

RANKIN
EOSIN-Y
PHLOXINE



Producing crisp and well-defined detail is our proprietary family of pH-balanced Rankin Intensified Cytoplasmic Stains. This family of cytoplasmic stains consists of two distinct products designed to produce consistent quality results: Rankin Alcoholic Eosin-Y and Rankin Alcoholic Eosin-Y Phloxine B.

The two stains provide excellent cytoplasmic tinctorial differentiation with a variety of color densities to choose from. When prominent nucleoli are present in properly fixed cells, the nucleoli will stain red. These Rankin Eosin stains are designed to provide enhanced contrast between cytoplasmic components and nuclear chromatin.

Our special stains may be used on all automatic stainers as well as in manual staining. The universal and may also be used with standard hematoxylin and eosin staining as well as frozen section staining. The eosin stains produce a wide range of color intensities and staining brilliance. Time intervals of fifteen seconds to one minute will progressively increase the contrast and density of the stained cytoplasm.

- Designed to produce consistent quality results
- May be used on all automatic stainers as well as in manual staining
- Produces a wide range of color intensities and staining brilliance

CODE	VOLUME	QUANTITY
6403-500	500 mL	Single Bottle
6403-4X500	500 mL	Pack of 4
6403-1G	1 Gallon	Single Bottle
6403-4X1G	1 Gallon	Pack of 4

RANKIN CLARIFYING DIFFERENTIATOR



The Rankin Clarifying Differentiator is designed to be used after hematoxylin staining to increase transparency and definition of hematoxylin and eosin staining. Clarifying differentiator has the additional benefits of removing nonspecific hematoxylin and slide adhesive staining. When slides are over stained, the differentiator may be used to remove unwanted hematoxylin staining of ground substance and mucin, which results in delineated crisp blue-purple nuclear chromatin staining and an exceptional cytoplasmic transparency and definition.

An increase of exposure to our clarifying differentiator results in greater cytoplasmic differentiation of muscle fibers and collagen. The recommended exposure time to the differentiator is thirty seconds to one minute. There should be no noticeable decrease in hematoxylin staining of nuclear chromatin.

Acid alcohol differentiators can result in inconsistent differentiation of ground substance staining, blue mucin staining, slide adhesive staining, and murky cytoplasmic staining. Undifferentiated nuclear staining is seen on occasion as well as pale nuclear staining. This is due to the aggressiveness of acid alcohol differentiators.

Rankin Clarifying Differentiator can be used with any staining protocol to improve staining results. It may be used on all automatic stainers as well as in manual staining. The shelf life of Rankin Clarifying Differentiator is two years versus the standard one year for competitive products.

- Increases transparency and definition of hematoxylin and eosin staining
- Can be used with any staining protocol to improve staining results
- May be used on all automatic stainers as well as in manual staining
- Two-year shelf life

CODE	VOLUME	QUANTITY
6404-1G	1 Gallon	Single Bottle
6404-4X1G	1 Gallon	Pack of 4

RANKIN

BLUING REAGENT

PH8 BUFFERED



Rankin Bluing Reagent is buffered to a pH of 8; this closely controlled pH balanced solution provides consistent and rapid bluing of hematoxylin-stained nuclei without the risk of losing tissue sections from slides. It also allows for a higher throughput of slides. High pH bluing reagents may detach tissue sections from slides, this becomes a critical factor with frozen sections when limited tissue sections are available.

This pH-balanced bluing reagent enhances nuclear chromatin detail and initiates an insoluble dye-lake complex with nuclear chromatin, resulting in a permanent crisp blue-purple stained nucleus. It is universal and may be used with progressive and regressive hematoxylin stains.

When using the Rankin Bluing Reagent with a standard staining protocol, only thirty seconds to one minute exposure time is required and a one-minute water rinse after bluing. When used for frozen sections, a reduced time of five to ten seconds is sufficient with a water rinse of only twenty seconds. The time required for this reaction is significantly less than standard bluing reagents making it ideal for use in frozen sectioning when time is a critical factor.

Our bluing reagent is a clear colorless solution that is stable for winter shipments in cold climates. It's not a concentrate and does not require diluting before use. Additionally, an antimicrobial agent is added allowing for a shelf life of two years.

- Provides consistent and rapid bluing of hematoxylin-stained nuclei
- Enhances nuclear chromatin detail and initiates an insoluble dye-lake complex
- Universal and may be used with progressive and regressive hematoxylin stains
- Clear colorless solution

CODE	VOLUME	QUANTITY
6405-1G	1 Gallon	Single Bottle
6405-4X1G	1 Gallon	Pack of 4

QUESTIONS AND ANSWERS

HEMATOXYLIN

Question: What is the benefit of using Rankin Hematoxylin versus my present hematoxylin? (7211, Hema 1, Hema 2, 560, Anatech, Harris, or Gill 1,2,3)

Answer: Rankin Hematoxylin is designed to stain nuclear chromatin with increased crispness better than any competitive hematoxylin can achieve. The staining times are conveniently engineered to progress in intensity in thirty-second intervals, while the average staining time is four minutes. Offers an extended shelf life of two years compared to competitive hematoxylin of only one year. Rankin Hematoxylin does not crystallize or form precipitates even during cold winter shipments.

Question: Is Rankin Hematoxylin a progressive stain?

Answer: Rankin Hematoxylin can be used as a progressive or regressive stain depending on the occasion.

Question: Does Rankin Hematoxylin contain mercury?

Answer: No.

Question: Can Rankin Hematoxylin be used in cytology?

Answer: Rankin Hematoxylin can be used in cytology for Non-GYN. Recommended staining times are thirty seconds to one minute; for needle aspirants one-three minutes of staining time.

Question: Can Rankin Hematoxylin be used for frozen sections?

Answer: Yes; the recommended staining time is fifteen-thirty seconds.

Question: Can Rankin Hematoxylin be used for immunohistochemistry staining techniques that utilize AEC?

Answer: Yes, it can be used for a nuclear stain with immunohistochemistry staining techniques utilizing AEC or DAB.

Question: How often should Rankin Hematoxylin be changed?

Answer: Rankin Hematoxylin should be changed at least every two weeks or after staining about 3,000 slides.

EOSIN-Y

Question: What makes Rankin Eosin-Y different from the Eosin I presently use? (7211, Hema 1, Hema 2, 560, Anatech, Harris, or Gill 1,2,3)

Answer: Unlike other Eosin-Y stains, the Rankin Alcoholic Intensified Eosin -Y differentiates cytoplasmic components in three distinct colors. It stains muscle a vibrant red-pink, connective tissue orange-pink and red blood cells, red. When fixed properly nucleoli will stain red; stained nucleoli will help facilitate the identification of specific cell types.

Question: Does your Eosin-Y stain nucleoli?

Answer: Yes.

Question: How do you control the intensity of Rankin Alcoholic Intensified Eosin-Y?

Answer: By the staining time of fifteen seconds to one minute and alcohol rinses after the eosin.

Question: Can Rankin Alcoholic Intensified Eosin-Y be used for frozen section staining?

Answer: Yes.

CLARIFYING DIFFERENTIATOR

Question: What makes Rankin Clarifying Differentiator different from my present reagent?

Answer: The Rankin Clarifying Differentiator assures reproducible consistent results.

Question: Can Rankin Clarifying Differentiator be used with my present hematoxylin?

Answer: Yes, it can be used with any progressive or regressive hematoxylin. (7211, Hema 1, Hema 2, 560, Anatech, Harris, or Gill 1,2,3)

Question: Does the differentiator need to be diluted prior to use?

Answer: No.

BLUING REAGENT

Question: What makes Rankin Buffered Bluening Reagent different from my present bluing reagent, or my current use of ammonia water?

Answer: Consistent reproducibility and ammonia water is not a buffered solution. Its pH is not stable, this could affect the results of your nuclear stain appearance. Ammonia is a strong base, if the pH of the ammonia water becomes too alkaline, tissue sections will begin to separate from the slide. Ammonia water requires a five-minute water rinse after bluing. Rankin only requires a five second to one minute water rinse. Concentrated ammonium hydroxide is a hazardous chemical; a large spill could cause you to evacuate your lab.

Question: What makes Rankin Buffered Bluening Reagent different from my current use of saturated lithium carbonate in water?

Answer: Due to the absence of a stable pH, crisp nuclear detail is at risk when using saturated lithium. Tissue sections blued in saturated lithium carbonate are more likely to separate from the slide. Saturated lithium carbonate is not a buffer, the pH of the bluing reagent is partially responsible for producing crisp nuclear staining. In addition, lithium carbonate is expensive and it requires five minute water rinse after bluing.