

A Large Portfolio of High Quality, Ready-to-Use Special Stains

Automate your special staining process with Artisan Link Pro



Agilent

Trusted Answers

A True Walk-Away Solution for Multiple Special Stains

Artisan Link Pro

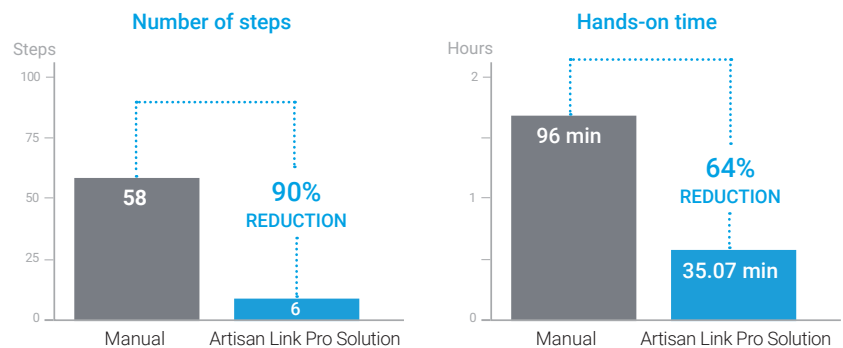


The Artisan Link Pro solution is designed to provide pathology labs with consistent staining results, optimal user safety and significantly improved efficiency. Automate your special stains with Artisan Link Pro and experience an easy and efficient process while relying on consistent results, slide after slide.

Significant time savings using Artisan Link Pro compared to a manual process¹

Productivity was assessed by comparing five Artisan RTU stain kits* with comparable manual procedures.

The evaluation showed a significant reduction in number of steps and hands on time comparing the manual process to the automated process with Artisan Link Pro.

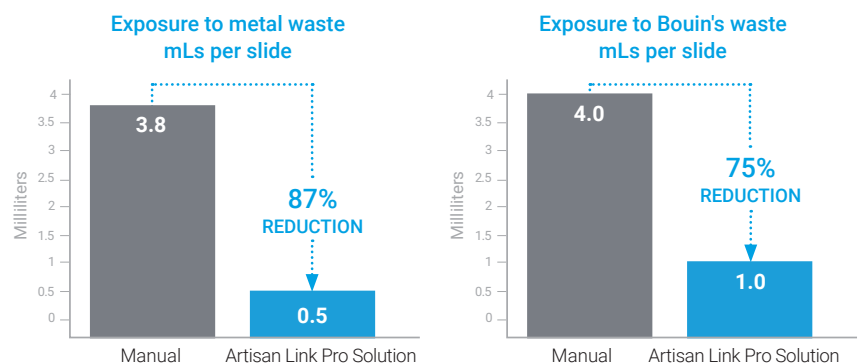


* The Artisan RTU kits that were used for this study were AFB Green, GMS Eosin, Jones H&E, Jones Green, and AB/PAS-D.

Reduced waste and hazard exposure using Artisan Link Pro compared to a manual process²

Ten different manual procedures** and the comparable Artisan RTU stain kits were used to evaluate a total of 952 slides across four different sites.

The evaluation showed that Artisan Link Pro can reduce reagent waste by as much as 75% compared to equivalent manual procedures.



** The stains that were used for this evaluation study were Trichrome, reticulin/NFR, AB/PAS/HEM, GMS, PAS, PAS-D, Iron, Jones, and Elastic.

Scan or click on the code to request more information about Artisan Link Pro



A Large Portfolio of Ready-to-Use Special Stains

Artisan Special Stains Kit

The Artisan Link Pro solution offers a broad portfolio of ready-to-use special stains and standardized (yet editable) protocols, automating even your most complex stains.

You can run up to 14 different protocols at the same time, optimizing productivity.

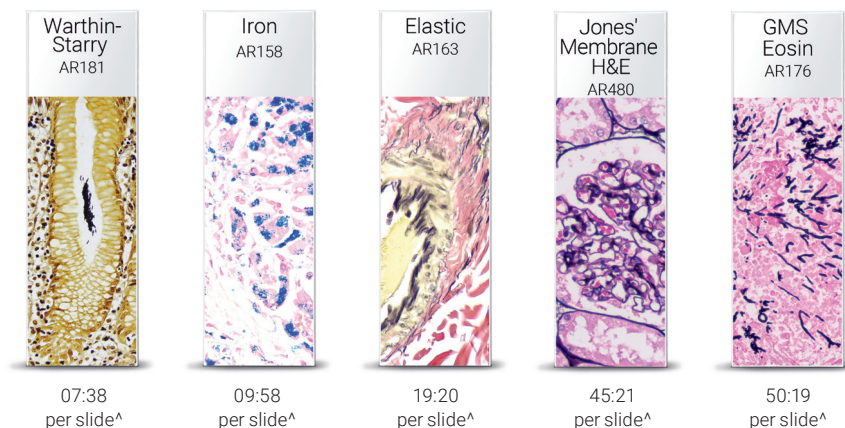
Each kit provides closed reagent cartridges for precise dispensation of reagents for optimal staining quality.

Artisan reagent cartridges arrive ready to use right out of the box, with no need for users to make up the stains before staining. This minimizes setup time and helps reduce staff exposure to hazardous chemicals.

Fast staining times with Artisan Link Pro

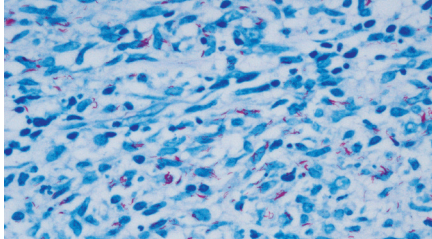
Artisan Link Pro also offers optional drying and deparaffinization also allowing you to choose the process that is right for your lab.

Stain Kit	To Identify	Code
Acid-Fast Bacteria	Microorganisms	AR162
Acid-Fast Bacteria Light Green	Microorganisms	AR362
Alcian Blue pH 2.5	Carbohydrates	AR160
Alcian Blue/PAS	Carbohydrates	AR169
Alcian Blue/PAS with Alpha-Amylase	Carbohydrates	AR169 + AR171
Alcian Blue/PAS/Hematoxylin	Carbohydrates	AR178
Colloidal Iron	Carbohydrates	AR307
Congo Red	Amyloid	AR161
Elastic	Connective Tissues	AR163
Giemsa	Hematopoietic Cells	AR164
Gomori's Blue Trichrome	Connective Tissues	AR167
Gomori's Green Trichrome	Connective Tissues	AR166
Gram	Microorganisms	AR175
Gram Yellow	Microorganisms	AR306
Grocott's Methenamine Silver	Microorganisms	AR176
Grocott's Methenamine Silver Eosin	Microorganisms	AR376
Iron	Ferric Iron	AR158
Jones' Basement Membrane	Basement Membranes	AR180
Jones' Basement Membrane H&E	Basement Membranes	AR480
Jones' Basement Membrane Light Green	Basement Membranes	AR380
Masson's Trichrome	Connective Tissues	AR173
Mucicarmine	Carbohydrates	AR168
Orcein	Connective Tissues	AR313
Periodic Acid-Schiff	Carbohydrates	AR165
Periodic Acid-Schiff Green	Microorganisms	AR172
Periodic Acid-Schiff with Alpha-Amylase	Carbohydrates	AR165 + AR171
Reticulin/No Counterstain	Connective Tissues	AR182
Reticulin/Nuclear Fast Red	Connective Tissues	AR179
Warthin-Starry	Microorganisms	AR181



Special Stains for the Identification of Microorganisms

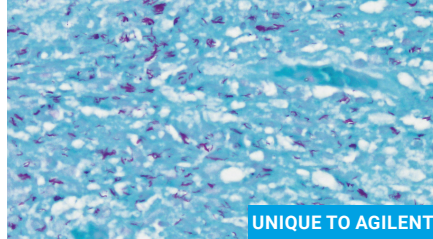
Microorganisms are poorly visualized within an H&E stain³ and accurate identification can be challenging. Although many different modern techniques exist to identify microorganism infections, special staining is still a preferred method to help support identification and classification of these organisms, especially bacteria and fungi.



Acid-Fast Bacteria, Artisan.
Code AR162.

Stains acid-fast bacteria in varying shades of red and the background in light blue.

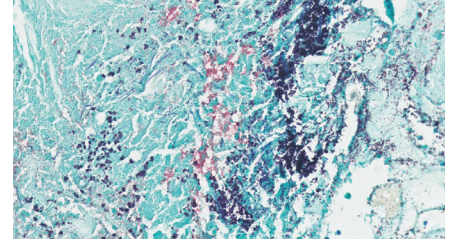
Time per slide ^: 00:12:43



Acid-Fast Bacteria Light Green, Artisan.
Code AR362.

Stains acid-fast bacteria in varying shades of red and the background in light green.

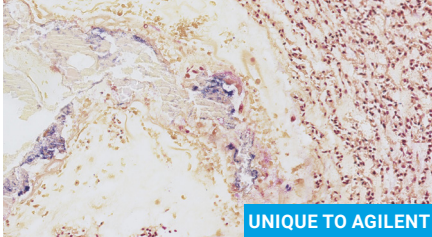
Time per slide ^: 00:12:43



Gram, Artisan.
Code AR175.

Stains gram-positive bacteria in blue, gram-negative bacteria in red, and the background in varying shades of blue/green.

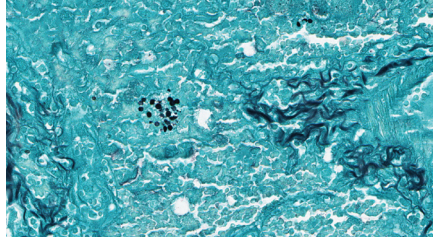
Time per slide ^: 00:24:00



Gram Yellow, Artisan.
Code AR306.

Stains gram-positive bacteria in dark blue, gram-negative bacteria in light pink to magenta, and the background in varying shades of yellow.

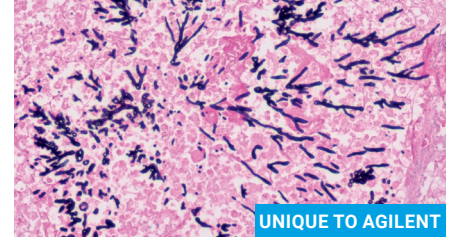
Time per slide ^: 00:41:01



Grocott's Methenamine Silver, Artisan.
Code AR176.

Stains fungi in black, pneumocystis in black, and the background in light green.

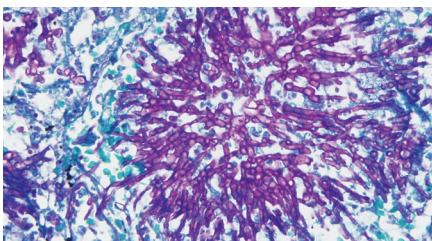
Time per slide ^: 00:50:19



Grocott's Methenamine Silver Eosin, Artisan.
Code AR376.

Stains fungi in black, pneumocystis in black, and the background in pink.

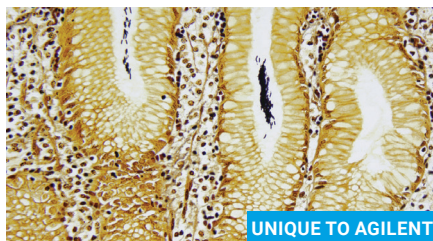
Time per slide ^: 00:56:17



Periodic Acid-Schiff Green, Artisan. Code AR172

Stains fungi in magenta and the background in blue-green.

Time per slide ^: 00:24:12



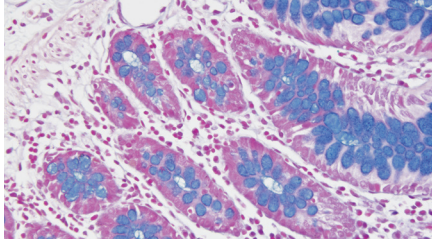
Warthin-Starry, Artisan. Code AR181.

Stains helicobacter pylori in black, spirochetes in black, and the background in golden yellow.

Time per slide ^: 00:07:38

Special Stains for the Identification of Carbohydrates

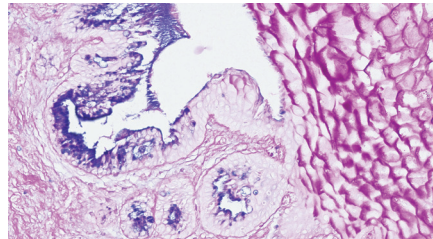
Demonstration of carbohydrates, such as mucins & glycogen, in tissue is challenging and suboptimal using H&E, and the IHC technique is rarely used^{4,5}. However, the special staining technique is hugely valuable and is the main method used for their identification. Reliable, accurate and consistent demonstration of carbohydrate is an important aid for certain diagnoses.



Alcian Blue pH 2.5, Artisan. Code AR160.

Stains weakly sulfated acidic mucopolysaccharides, sulfomucins, hyaluronic acid, and sialomucins in dark blue, nuclei in red to pink, and cytoplasm in pale pink.

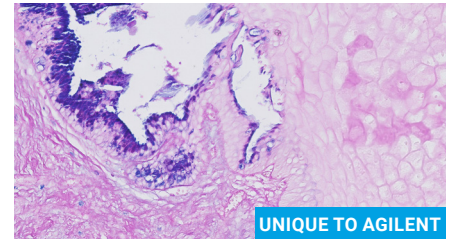
Time per slide^: 00:26:03



Alcian Blue/PAS, Artisan. Code AR169.

Stains neutral mucins in magenta, acidic mucins in blue, and mixtures of acidic and neutral mucins from blue/purple or blue through violet or mauve (depending on the dominant entity).

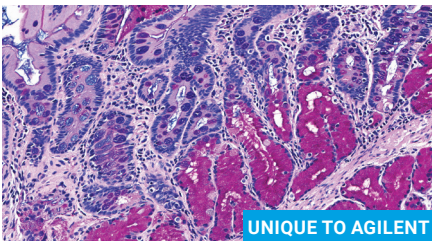
Time per slide^: 00:22:18



Alcian Blue/PAS with Alpha-Amylase, Artisan. Code AR169 (with AR171).

Stains neutral mucins in magenta, acidic mucins in blue, and mixtures of acidic and neutral mucins from blue/purple or blue through violet or mauve (depending on the dominant entity).

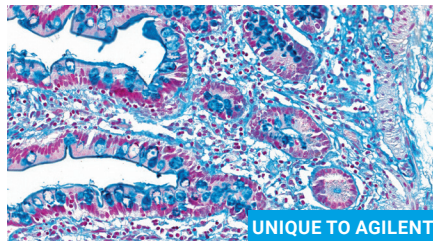
Time per slide^: 00:37:45



Alcian Blue/PAS/Hematoxylin, Artisan. Code AR178.

Stains neutral mucins in magenta, acidic mucins in blue, mixtures of acidic and neutral mucins from green or purple through violet or mauve (depending on the dominant entity), and nuclei black to blue.

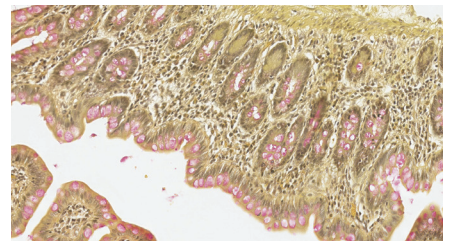
Time per slide^: 00:36:29



Colloidal Iron, Artisan. Code AR307.

Stains carboxylated and sulfated mucopolysaccharides and glycoprotein mucin in dark blue, nuclei in light pink, and cytoplasm in light pink.

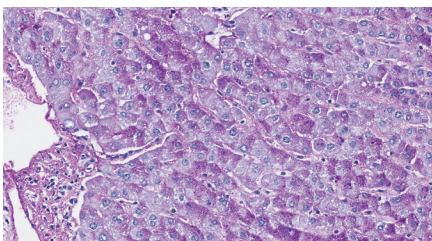
Time per slide^: 00:40:16



Mucicarmine, Artisan. Code AR168.

Stains mucin in pink, nuclei in black, and the background in yellow.

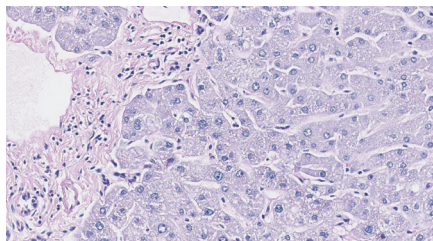
Time per slide^: 00:50:54



Periodic Acid-Schiff (PAS), Artisan. Code AR165.

Stains PAS-positive structures in magenta, nuclei in blue, and the background in pink.

Time per slide^: 00:59:59



Periodic Acid-Schiff with Alpha-Amylase, Artisan. Code AR165 (with AR171).

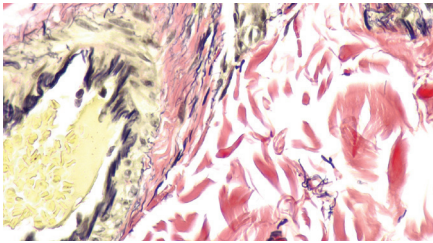
Stains nuclei in blue and the background in pink.

Time per slide^: 01:14:02

Special Stains for the Identification of Connective Tissues

Although the group collectively known as connective tissues can be visualized within an H&E Stain, the connective tissue components can appear indistinct⁶.

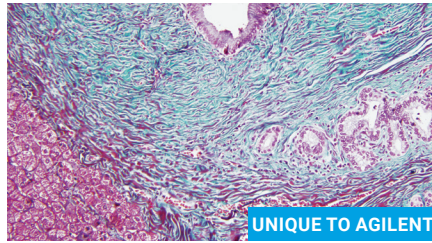
Special stains are useful in the more selective demonstration of connective tissue and provide improved visualization of the delicate structures and fibers due to the different color compounds which dye different tissue components.



Elastic, Artisan.
Code AR163.

Stains elastin fibers in black, nuclei in blue to black, collagen in red, and other tissue elements in yellow.

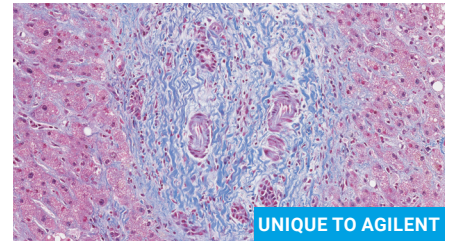
Time per slide[^]: 00:19:20



Gomori's Green Trichrome, Artisan.
Code No. AR166.

Stains cytoplasm in red, fibrin in pink, collagen in green, nuclei in blue or black, and erythrocytes in red.

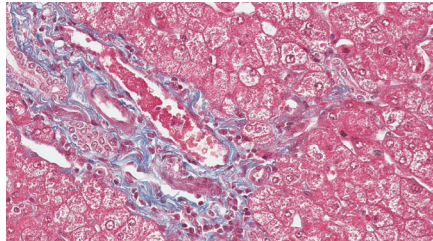
Time per slide[^]: 00:29:13



Gomori's Blue Trichrome, Artisan.
Code No. AR167.

Stains cytoplasm in red, fibrin in pink, collagen in blue, nuclei in blue or black, and erythrocytes in red.

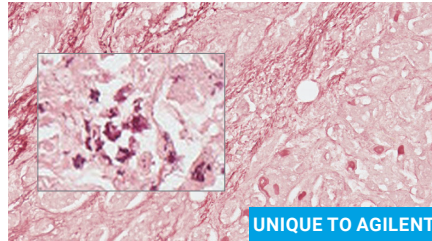
Time per slide[^]: 00:45:02



Masson's Trichrome, Artisan.
Code AR173.

Stains muscle fibers in red, fibrin in pink, collagen in blue, nuclei in blue or black, and erythrocytes in red.

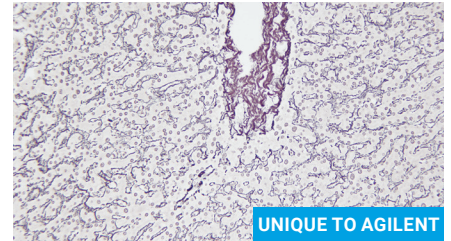
Time per slide[^]: 00:57:15



Orcein, Artisan.
Code AR313.

Stains HBsAG/elastin fibers in dark reddish Brown, copper-associated protein in dark red-purple, and the background in pale pink to pink.

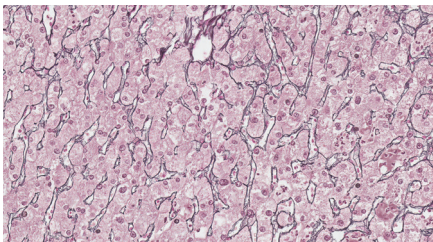
Time per slide[^]: 00:15:44



Reticulin/No Counterstain, Artisan.
Code AR182.

Stains reticulin fibers in black.

Time per slide[^]: 00:38:57



Reticulin/Nuclear Fast Red, Artisan. Code AR179.

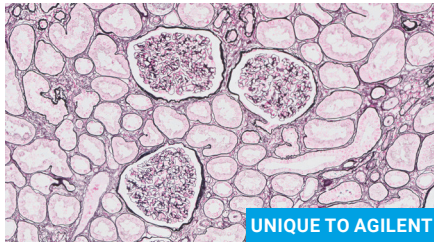
Stains reticulin fibers in black and background in red.

Time per slide[^]: 01:02:59

Special Stains for the Identification of Basement Membranes

H&E staining in combination with special staining are still highly important tools in renal pathology as an aid in the diagnosis⁶.

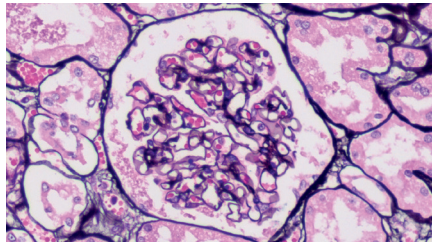
Special Stains play an especially important role as it can be difficult in the H&E stain to distinguish important features such as basement membrane. Special stains such as Jones Basement Membrane are superior in the study of fine structure⁷ and preferred for basement membrane assessment of renal diseases.



Jones' Basement Membrane, Artisan.
Code AR180.

Stains basement membranes in black, nuclei in red, and the background in pink.

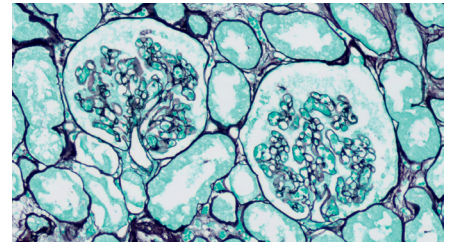
Time per slide[^]: 00:52:53



Jones' Basement Membrane H&E, Artisan.
Code AR480.

Stains basement membranes in black, nuclei in blue, and the background in pink.

Time per slide[^]: 00:45:21



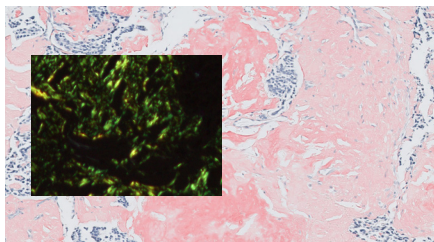
Jones' Basement Membrane Light Green, Artisan. Code AR380.

Stains basement membranes in black and the background in light green.

Time per slide[^]: 00:42:55

Special Stains for the Identification of Amyloid, Ferric Iron, and Hematopoietic Cells

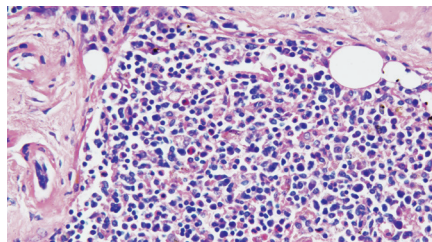
Routine H&E staining is not very suited for identification of deposits such as amyloid and pigments such as Ferric Iron within tissue^{8,9}. H&E staining is also less informative for differentiation of hematopoietic cells. In these cases, special stains can be of value for identification and as a supportive diagnostic tool.



Congo Red, Artisan. Code AR161.

Under polarized light microscopy stains amyloid in apple green, and under light microscopy stains amyloid, collagen, and other fibrous materials in pale pink/salmon, and nuclei in blue.

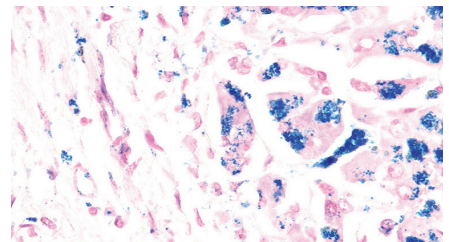
Time per slide[^]: 00:31:16



Giemsa, Artisan. Code AR164.

Stains mast cell granules in purple, basophils in purple, eosinophils in bright pink, and lymphocytes in blue.

Time per slide[^]: 01:01:48



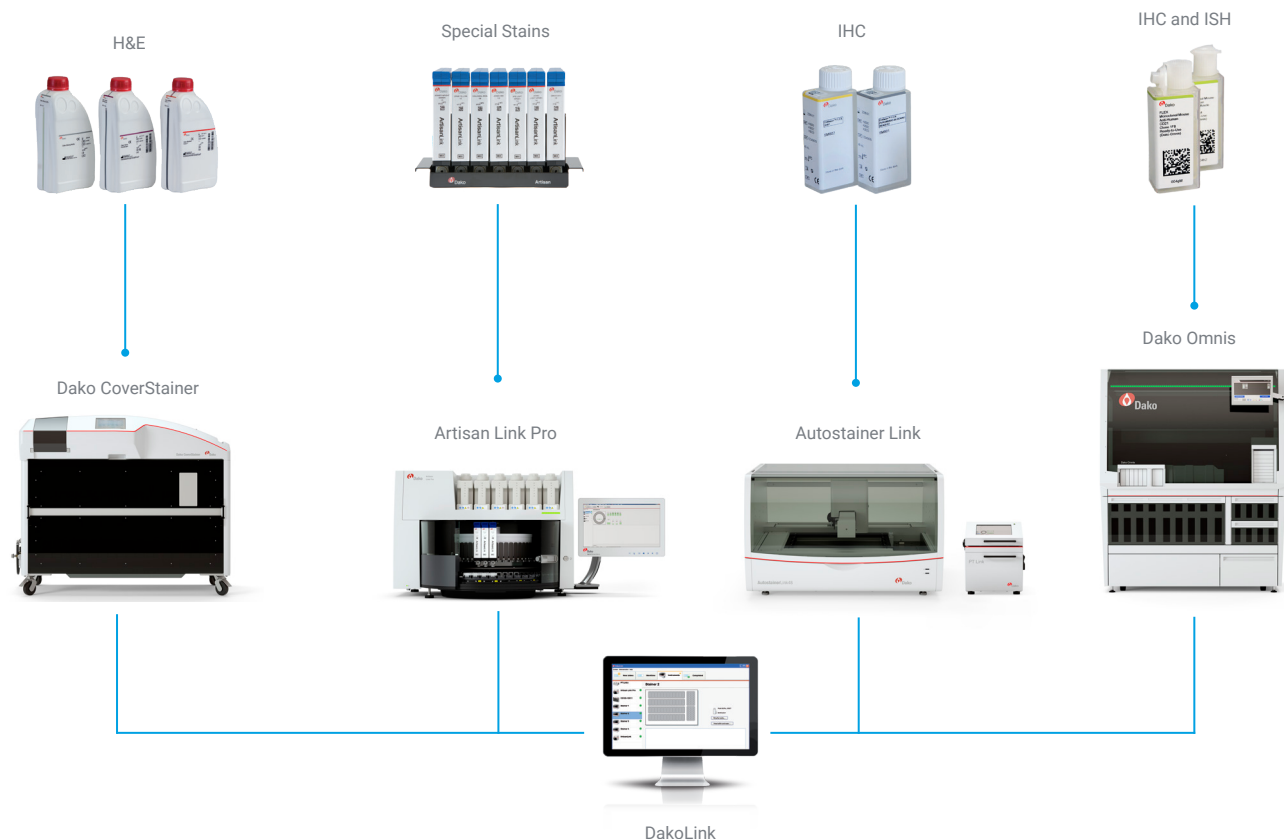
Iron, Artisan. Code AR158.

Stains ferric iron in blue, nuclei in red, and the background in pink.

Time per slide[^]: 00:09:58

Dako Staining Solutions for H&E, Special Stains, IHC and ISH

Integrated, innovative, and automated pathology solutions for complete diagnostic confidence.



References

1. Data on file
2. ArtisanLink vs. Manual Methods, 29017 04SEP10
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5. Bancroft JD, Theory & Practice of Histological Techniques, 6th Edition, Chapter 11, p161-186
6. Bancroft JD, Theory & Practice of Histological Techniques, 6th Edition, Chapter 10, p135-160
7. Laurino Licia, Special Stains & H&E, 2nd Edition, Chapter 24, p205-212
8. Bancroft JD, Theory & Practice of Histological Techniques, 6th Edition, Chapter 15, p261-281
9. Saxena, Rashmil, Special Stains & H&E, 2nd Edition, Chapter 12, p107-109

[^]Time per slide varies depending on a number of factors, including but not limited to: placement on carousel, quantity of slides on instrument, staining combination and staining protocol. Using onboard drying and deparaffinization will add additional time to the throughput.

For more information, please contact MMJ Biosystems, our Agilent Authorized Distributor.
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