An Overview of Biocare Medical's Instruments for Immunohistochemistry and *In Situ* Hybridization Procedures



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As a leader in the fields of immunohistochemistry (IHC) and in situ hybridization (ISH), Biocare Medical has, for more than 20 years, offered a variety of instruments used in these staining procedures. Biocare has instruments that can meet your need for high-quality staining at a reasonable cost, whether your lab regularly performs a high volume of IHC/ ISH procedures, or an infrequent, smaller volume, as projects arise.



Perhaps your lab is located within a relatively small dermatology practice, and you only need to stain 5 to 15 slides a few times a week for two target antigens (such as MART-1 and SOX-10). In this case, a small, easy-to-use platform like the IQ Kinetic system is an excellent solution. The IQ can be configured for a maximum of 36 slides. Up to three 12-slide 'hot bars' form the basis of each IQ system and provide an efficient manual staining platform above a tabletop basin for convenient waste collection. And as the name suggests, each hot bar can be programmed by the degree to maintain a temperature ranging from ambient to 95°C. This means that the IQ system can be employed for the heat-induced 'denaturation' step within ISH procedures as well.

intelliPATH FLX®



Alternatively, your lab may be part of an academic medical center that performs IHC procedures for both clinical diagnostic and investigative research purposes. In this situation, your organization undoubtedly requires an instrument that provides tremendous capacity, efficiency, and reliability. That's where Biocare Medical's intelliPATH FLX® system comes in.

With a 50 slide capacity, the intelliPATH FLX holds the largest slide capacity of any available instrument, and it is entirely 'open.' That is, the intelliPATH permits your lab to run any antibody, detection system, or ancillary reagent, regardless of supplier. The open nature of this instrument also provides a great deal of protocol flexibility and the ability to easily employ antibodies prepared from concentrate, resulting in significantly lower overall operating costs. Other commercially available instruments may advertise a greater degree of automation, but with that comes higher costs and less protocol flexibility. Additionally, if your lab is interested in performing simultaneous multiplex staining procedures, the intelliPATH offers that ability. This is unlike other instruments, which limit the user to a lengthy sequential staining procedure.

Suppose your lab happens to be located within a large urology practice that performs cystoscopic bladder biopsies and transdermal prostate biopsies. In that case, you may need to complete 15 to 25 fluorescence ISH procedures each weekday. This represents an excellent opportunity to consider Biocare's ONCORE[™] Pro Automated Slide Staining System. The ONCORE Pro is a compact instrument capable of performing ISH denaturation steps in addition to all types of chromogenic IHC procedures. The ONCORE Pro has a maximum capacity of 36 slides and is capable of automating deparaffinization and retrieval. The instrument is compact, lightweight, and has no special installation requirements. Its ease of installation and small lab footprint make it a space-efficient choice for any laboratory size.

CNCORE



Biocare Medical Slide-Staining System Comparison

Capacities & Capabilities	IQ 1000	IQ 2000	IQ 3000	intelliPATH FLX	ONCORE Pro
Staining Applications	IHC and ISH	IHC and ISH	IHC and ISH	IHC Only	IHC and ISH
Operating Mode	Manual	Manual	Manual	Automated	Automated
Slide Capacity	12	24	36	50	36
Slide-placement Format	Array; 1 bar of 12 slides	Array; 2 bar of 12	Array; 3 bar of 12	Array; 5 drawers of 10	36 separate slide modules
Reagent Container Capacity	N/A	N/A	N/A	48	40
Maximum Container Volumes	N/A	N/A	N/A	20mL	7 & 15mL
'Standard' Dispense Volume	Manual	Manual	Manual	300uL	200uL
Adjustable Dispense Volume	N/A	N/A	N/A	Yes	No
Accepts Other Vendor's Reagents	All Types	All Types	All Types	All Types	Only Antibodies
Deparaffinization	N/A	N/A	N/A	N/A	Yes
Heat-induced Epitope Retrieval	No	No	No	No	Yes
Static-Batch Processing	N/A	N/A	N/A	Yes	Yes
Dynamic-Batch Processing	N/A	N/A	N/A	Yes	No
Dynamic-Random Processing	N/A	N/A	N/A	Yes	No
Waste Separation	N/A	N/A	N/A	Yes	Yes
Reagent Application Method	Manual	Manual	Manual	Rinsed Probe	Rinsed Probe
Capable of Dispnsing Two 'Wash' Buffers	N/A	N/A	N/A	N/A	No
Employs 'Reagent-Retention' Device	No	No	No	No	Yes*
Special Required Accesories	No	No	No	No	Staining Chamber Covers

Similar to Leica Biosystem's use of covertiles on it's BOND[™] instruments, the ONCORE employs a washable / replaceable staining-chamber 'cover, to ensure retention of reagents and reduce reagent consumption volume.

In conclusion, Biocare Medical offers a variety of instruments for both IHC and ISH procedures. If your laboratory is interested in learning more, please contact Biocare's Technical Support department (800-799-9499, option 3).

^{1.} Myers J: Automated IHC/ISH slide staining systems: Current technologies and other considerations. Medical Laboratory Observer 44(7): 48-50, 2012.

^{2.} Prichard J., Bitting A. and Myers J. Overview of automated immunohistochemistry. In Handbook of Practical Immunohistochemistry: Frequently Asked Questions. Lin, F. and Prichard, J., eds.; New York: Springer; Second Edition, 2015.

^{3.} Myers J: A review of automated slide stainers for immunohistochemistry and in situ hybridization. Medical Laboratory Observer 40(1): 41-44, 2008.

^{4.} Myers J: Antigen retrieval: A review of commonly used methods and devices. Medical Laboratory Observer 38(6): 10-15, 2006.

^{5.} Myers J: Automated slide stainers for special stains, immunohistochemistry and in situ hybridization: A review of current technologies and commercially available systems. Medical Laboratory Observer 36 (1): 28-30, 2004.