



Product Comparison
Hemochron Signature Elite vs i-STAT*

Standardize Whole Blood Hemostasis Testing at the Point-of-Care (POC)

With a broad test menu, automatic and internal electronic QC, and endpoint clot detection technology, Hemochron Signature Elite provides fast and accurate results for critical patient management decisions for various clinical settings.

	Hemochron Signature Elite^{1,2,3}	i-STAT^{4,5}	Impact to Hospital
Methodology	<ul style="list-style-type: none"> Clot endpoint achieved when fibrin clot reaches firmness and movement decreases below a predetermined rate 	<ul style="list-style-type: none"> Provides a calculated result based on a thrombin substrate conversion using an electrochemical sensor 	<ul style="list-style-type: none"> Hemochron Signature Elite measures to the end of fibrin-clot formation Direct measurement using the Hemochron Signature Elite provides a whole-blood, global hemostasis assay
Hemostasis Menu Options	<ul style="list-style-type: none"> ACT+ (1–6 IU/mL; moderate to high heparin levels) ACT-LR (up to 2.5 IU/mL; low to moderate heparin levels) PT/INR (fresh whole blood) PT/INR (citrated) APTT (fresh whole blood) APTT (citrated) 	<ul style="list-style-type: none"> ACT Kaolin (high UFH with no defined sensitivity) ACT Celite (moderate-to-high UFH with no defined sensitivity) PT/INR 	<ul style="list-style-type: none"> Hemochron Signature Elite offers a broad Hemostasis test menu to address individual hospital POC protocols
Maximally Activated ACT Test	<ul style="list-style-type: none"> ACT+: maximally activated test containing kaolin and silica as contact activators ACT-LR: maximally activated test containing Celite® and silica as contact activators 	<ul style="list-style-type: none"> Both ACT tests only contain a single activator 	<ul style="list-style-type: none"> Maximally activated ACT results more closely correlate to Anti-Xa⁶ Maximal activation mitigates variability induced by artifacts of hemodilution⁶

“Maximally activated clotting times containing more than a single activator mitigate ACT variability, are less susceptible to hypothermia, and correlate more closely with factor Xa activity when compared with tests using a single activator.⁶”

ACT = activated clotting time; UFH = unfractionated heparin; PT/INR = prothrombin time/international normalized ratio; APTT = activated partial thromboplastin time
* i-STAT is manufactured by Abbott.

	Hemochron Signature Elite ^{1,2,3}	i-STAT ^{4,5}	Impact to Hospital
Time to Result	<ul style="list-style-type: none"> ~4 min with RapidCount™ technology 	<ul style="list-style-type: none"> ~8 min 	<ul style="list-style-type: none"> Hemochron Signature Elite RapidCount technology ensures rapid results especially before emergent cases⁷
Low-Range Heparin Monitoring	<ul style="list-style-type: none"> ACT-LR: for heparin levels up to 2.5 IU/mL APTT: for heparin levels up to 1.5 IU/mL 	<ul style="list-style-type: none"> No specified heparin sensitivity range published by the manufacturer 	<ul style="list-style-type: none"> Hemochron Signature Elite has a cartridge sensitive to low heparin concentration; intended for use in cardiac catheterization, ECMO/ ECLS²
ACT Cartridge Shelf Life	<ul style="list-style-type: none"> 12 months, refrigerated 12 weeks, room temperature 	<ul style="list-style-type: none"> 6 months, refrigerated 2 weeks, room temperature 	<ul style="list-style-type: none"> Longer shelf life may reduce wasted test cartridges and allows unrefrigerated cartridge storage at POC
Impact of Fibrinogen on Clotting	<ul style="list-style-type: none"> ACT test measures endpoint fibrin-clot formation 	<ul style="list-style-type: none"> Calculated ACT assesses hemostasis up to thrombin cleavage prior to fibrinogen conversion 	<ul style="list-style-type: none"> 13% of cardiac surgery patients have severe hypofibrinogenemia (<100 g/dL) which may contribute to post-operative bleeding⁸ Hemochron Signature Elite measures fibrin clot formation and provides a more complete assessment of hemostasis
Electronic Quality Control (EQC)	<ul style="list-style-type: none"> Internal and automatic without need for external simulators 	<ul style="list-style-type: none"> Utilizes both internal and external simulators 	<ul style="list-style-type: none"> Hemochron Signature Elite EQC can be configured to run automatically without user involvement Hemochron Signature Elite automatically performs a full EQC assessment that can be configured to suit any hospital protocol

Enhancing patient care and improving efficiency.

References

- Hemochron Signature Elite ACT+ Package Insert. Accriva Diagnostics, San Diego, CA.
- Hemochron Signature Elite ACT-LR Package Insert. Accriva Diagnostics, San Diego, CA.
- Hemochron Signature Elite Operators Manual. Accriva Diagnostics, San Diego, CA
- i-STAT ACTk Package Insert. Abbott Point of Care, Princeton, NJ
- i-STAT ACTc Package Insert. Abbott Point of Care, Princeton, NJ
- Shore-Lesserson, Linda *et al.* The Society of Thoracic Surgeons, The Society of Cardiovascular Anesthesiologists, and The American Society of ExtraCorporeal Technology: Clinical Practice Guidelines—Anticoagulation During Cardiopulmonary Bypass. *Ann Thorac Surg.* 2018;105:2:650–62.
- Schumer EM, Chaney JH, Trivedi JR, *et al.* Emergency Coronary Artery Bypass Grafting: Indications and Outcomes from 2003 through 2013. *Texas Heart Inst J.* 2016;43(3): 214–19.
- Araki Y, Usui A, Oshima H, *et al.* Impact of the intraoperative use of fibrinogen concentrate for hypofibrinogenemia during thoracic aortic surgery. *Nagoya J Med Sci.* 2015;77(1-2):265-73.

CABG = coronary artery bypass grafting; ECMO= Extracorporeal membrane oxygenation; ECLS= extracorporeal life support

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