



VIDAS[®] EMERGENCY PANEL






Fast results you can trust



PIONEERING DIAGNOSTICS

WHEN TIME MATTERS

How do you rapidly and accurately identify life-threatening emergencies to initiate appropriate treatment?

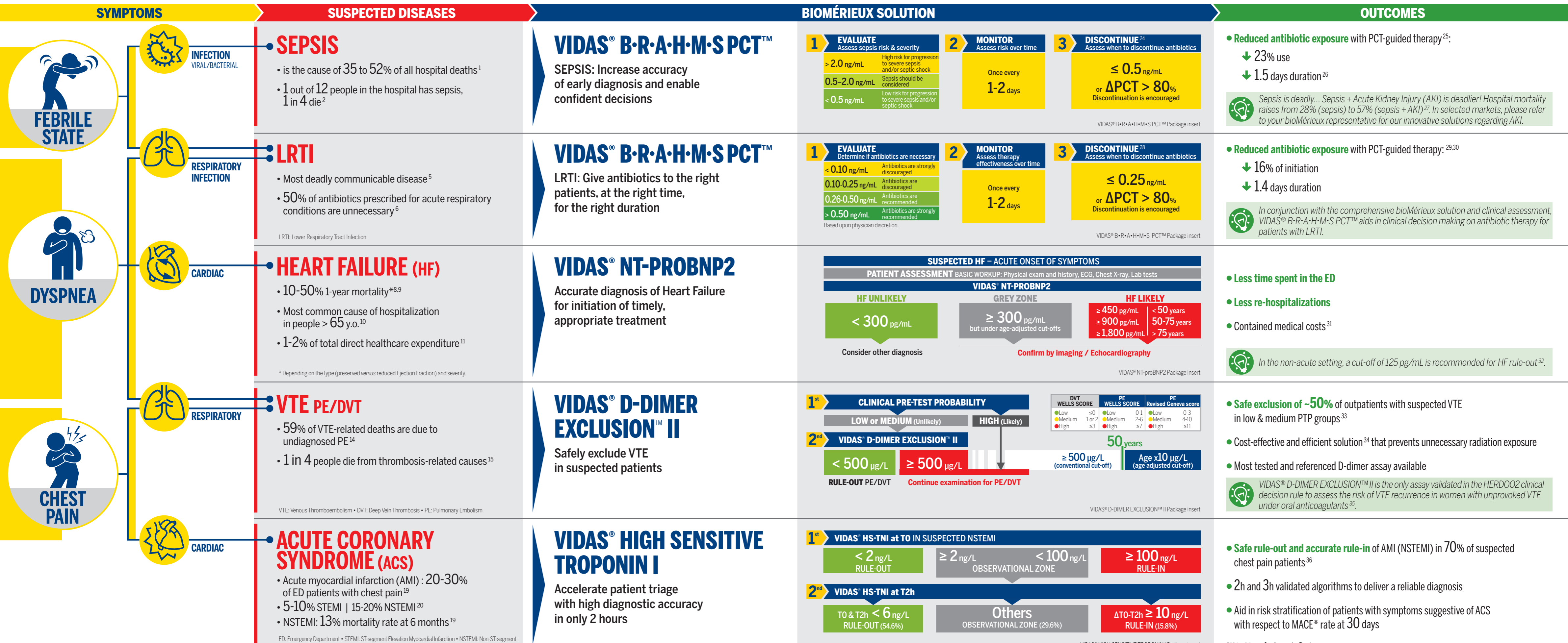
SYMPTOMS	SUSPECTED DISEASES	CHALLENGES	RECOMMENDATIONS FOR BIOMARKER TESTING
 <p>FEBRILE STATE</p>	<p>INFECTION VIRAL/BACTERIAL</p> <p>SEPSIS</p> <ul style="list-style-type: none"> • is the cause of 35 to 52% of all hospital deaths¹ • 1 out of 12 people in the hospital has sepsis, 1 in 4 die² 	<p>Early diagnosis and initiation of appropriate antibiotic therapy.³</p> <p>The first hours are decisive.</p>	<p>Procalcitonin (PCT)</p> <ul style="list-style-type: none"> • Early detection of sepsis • Monitoring of response to treatment⁴ • Antibiotic stewardship
 <p>DYSPNEA</p>	<p>RESPIRATORY INFECTION</p> <p>LRTI</p> <ul style="list-style-type: none"> • Most deadly communicable disease⁵ • 50% of antibiotics prescribed for acute respiratory conditions are unnecessary⁶ <p><small>LRTI: Lower Respiratory Tract Infection</small></p>	<p>Most of LRTIs are of viral origin.⁷</p> <p>Does your patient really need antibiotics?</p>	<p>Procalcitonin (PCT)</p> <ul style="list-style-type: none"> • Identify patients who would benefit from not starting antibiotic therapy • Determine when it is safe to discontinue treatment
 <p>DYSPNEA</p>	<p>CARDIAC</p> <p>HEART FAILURE (HF)</p> <ul style="list-style-type: none"> • 10-50% 1-year mortality*^{8,9} • Most common cause of hospitalization in people > 65 y.o.¹⁰ • 1-2% of total direct healthcare expenditure¹¹ <p><small>* Depending on the type (preserved versus reduced Ejection Fraction) and severity.</small></p>	<p>In acute heart failure, any delay in initiation of treatment increases mortality¹².</p> <p>Prompt and adequate diagnosis is a clinical challenge.</p>	<p>NT-proBNP</p> <ul style="list-style-type: none"> • Diagnosis: rule-out or rule-in of HF in patients with acute dyspnea and suspected acute HF¹³ <p><small><i>Natriuretic peptides (NPs) are also considered as first-line tools for the diagnosis of chronic HF.</i></small></p>
 <p>CHEST PAIN</p>	<p>RESPIRATORY</p> <p>VTE PE/DVT</p> <ul style="list-style-type: none"> • 59% of VTE-related deaths are due to undiagnosed PE¹⁴ • 1 in 4 people die from thrombosis-related causes¹⁵ <p><small>VTE: Venous Thromboembolism • DVT: Deep Vein Thrombosis • PE: Pulmonary Embolism</small></p>	<p>How can you quickly and safely exclude VTE in suspected outpatients?</p>	<p>D-Dimer</p> <ul style="list-style-type: none"> • Safe PE/DVT exclusion in suspected patients with low and intermediate PTP* • Highly sensitive D-dimer with clinical assessment as first investigation step in patients with suspected VTE^{16,17,18} <p><small>* Pre-Test Probability</small></p> <p><small><i>In unprovoked VTE, D-Dimer is part of the HERDOO2 rule that identifies low-risk women who can safely discontinue anticoagulants after short-term therapy.</i></small></p>
 <p>CHEST PAIN</p>	<p>CARDIAC</p> <p>ACUTE CORONARY SYNDROME (ACS)</p> <ul style="list-style-type: none"> • Acute myocardial infarction (AMI) : 20-30% of ED patients with chest pain¹⁹ • 5-10% STEMI 15-20% NSTEMI²⁰ • NSTEMI: 13% mortality rate at 6 months¹⁹ <p><small>ED: Emergency Department • STEMI: ST-segment Elevation Myocardial Infarction • NSTEMI: Non-ST-segment Elevation Myocardial Infarction • NSTEMI-ACS: Non-ST-segment Elevation Acute Coronary Syndromes</small></p>	<p>Shortening diagnosis. Timely and appropriate intervention.</p> <p>So, AMI or not AMI?</p>	<p>Cardiac Troponins</p> <ul style="list-style-type: none"> • Distinction between NSTEMI and unstable angina²¹ • Rapid rule-out and rule-in strategies including high-sensitivity assays^{22,23} • Recommended in all patients with suspected NSTEMI-ACS²¹

WHEN TIME MATTERS

How do you rapidly and accurately identify life-threatening emergencies to initiate appropriate treatment?

VIDAS® EMERGENCY PANEL

Improve patient outcomes and optimize patient management in the Emergency Department.



SYMPTOMS

SUSPECTED DISEASES

BIOMÉRIEUX SOLUTION

OUTCOMES



SEPSIS

- is the cause of 35 to 52% of all hospital deaths¹
- 1 out of 12 people in the hospital has sepsis, 1 in 4 die²

LRTI

- Most deadly communicable disease⁵
- 50% of antibiotics prescribed for acute respiratory conditions are unnecessary⁶

LRTI: Lower Respiratory Tract Infection

HEART FAILURE (HF)

- 10-50% 1-year mortality^{*8,9}
- Most common cause of hospitalization in people > 65 y.o.¹⁰
- 1-2% of total direct healthcare expenditure¹¹

* Depending on the type (preserved versus reduced Ejection Fraction) and severity.

VTE PE/DVT

- 59% of VTE-related deaths are due to undiagnosed PE¹⁴
- 1 in 4 people die from thrombosis-related causes¹⁵

VTE: Venous Thromboembolism • DVT: Deep Vein Thrombosis • PE: Pulmonary Embolism

ACUTE CORONARY SYNDROME (ACS)

- Acute myocardial infarction (AMI): 20-30% of ED patients with chest pain¹⁹
- 5-10% STEMI | 15-20% NSTEMI²⁰
- NSTEMI: 13% mortality rate at 6 months¹⁹

ED: Emergency Department • STEMI: ST-segment Elevation Myocardial Infarction • NSTEMI: Non-ST-segment Elevation Myocardial Infarction • NSTEMI-ACS: Non-ST-segment Elevation Acute Coronary Syndromes

VIDAS® B-R-A-H-M-S PCT™

SEPSIS: Increase accuracy of early diagnosis and enable confident decisions

VIDAS® B-R-A-H-M-S PCT™

LRTI: Give antibiotics to the right patients, at the right time, for the right duration

VIDAS® NT-PROBNP2

Accurate diagnosis of Heart Failure for initiation of timely, appropriate treatment

VIDAS® D-DIMER EXCLUSION™ II

Safely exclude VTE in suspected patients

VIDAS® HIGH SENSITIVE TROPONIN I

Accelerate patient triage with high diagnostic accuracy in only 2 hours

1 EVALUATE Assess sepsis risk & severity

> 2.0 ng/mL	High risk for progression to severe sepsis and/or septic shock
0.5-2.0 ng/mL	Sepsis should be considered
< 0.5 ng/mL	Low risk for progression to severe sepsis and/or septic shock

2 MONITOR Assess risk over time

Once every 1-2 days

3 DISCONTINUE²⁴ Assess when to discontinue antibiotics

≤ 0.5 ng/mL or ΔPCT > 80%
Discontinuation is encouraged

VIDAS® B-R-A-H-M-S PCT™ Package insert

1 EVALUATE Determine if antibiotics are necessary

< 0.10 ng/mL	Antibiotics are strongly discouraged
0.10-0.25 ng/mL	Antibiotics are discouraged
0.26-0.50 ng/mL	Antibiotics are recommended
> 0.50 ng/mL	Antibiotics are strongly recommended

Based upon physician discretion.

2 MONITOR Assess therapy effectiveness over time

Once every 1-2 days

3 DISCONTINUE²⁸ Assess when to discontinue antibiotics

≤ 0.25 ng/mL or ΔPCT > 80%
Discontinuation is encouraged

VIDAS® B-R-A-H-M-S PCT™ Package insert

SUSPECTED HF – ACUTE ONSET OF SYMPTOMS

PATIENT ASSESSMENT BASIC WORKUP: Physical exam and history, ECG, Chest X-ray, Lab tests

VIDAS® NT-PROBNP2

HF UNLIKELY	GREY ZONE	HF LIKELY
< 300 pg/mL	≥ 300 pg/mL but under age-adjusted cut-offs	≥ 450 pg/mL < 50 years ≥ 900 pg/mL 50-75 years ≥ 1,800 pg/mL > 75 years
Consider other diagnosis	Confirm by imaging / Echocardiography	

VIDAS® NT-proBNP2 Package insert

1st CLINICAL PRE-TEST PROBABILITY

LOW or MEDIUM (Unlikely) | HIGH (Likely)

2nd VIDAS® D-DIMER EXCLUSION™ II

< 500 µg/L	≥ 500 µg/L
RULE-OUT PE/DVT	Continue examination for PE/DVT

50 years

≥ 500 µg/L (conventional cut-off) | Age x10 µg/L (age adjusted cut-off)

DVT WELLS SCORE	PE WELLS SCORE	Revised Geneva score
Low ≤0	Low 0-1	Low 0-3
Medium 1 or 2	Medium 2-6	Medium 4-10
High ≥3	High ≥7	High ≥11

VIDAS® D-DIMER EXCLUSION™ II Package insert

1st VIDAS® HS-TNI at T0 IN SUSPECTED NSTEMI

< 2 ng/L	≥ 2 ng/L	< 100 ng/L	≥ 100 ng/L
RULE-OUT	OBSERVATIONAL ZONE	OBSERVATIONAL ZONE	RULE-IN

2nd VIDAS® HS-TNI at T2h

T0 & T2h < 6 ng/L	Others	ΔT0-T2h ≥ 10 ng/L
RULE-OUT (54.6%)	OBSERVATIONAL ZONE (29.6%)	RULE-IN (15.8%)

VIDAS® HIGH SENSITIVE TROPONIN I Package insert

• **Reduced antibiotic exposure** with PCT-guided therapy²⁵:

- ↓ 23% use
- ↓ 1.5 days duration²⁶

Sepsis is deadly... Sepsis + Acute Kidney Injury (AKI) is deadlier! Hospital mortality raises from 28% (sepsis) to 57% (sepsis + AKI)²⁷. In selected markets, please refer to your bioMérieux representative for our innovative solutions regarding AKI.

• **Reduced antibiotic exposure** with PCT-guided therapy: ^{29,30}

- ↓ 16% of initiation
- ↓ 1.4 days duration

In conjunction with the comprehensive bioMérieux solution and clinical assessment, VIDAS® B-R-A-H-M-S PCT™ aids in clinical decision making on antibiotic therapy for patients with LRTI.

- **Less time spent in the ED**
- **Less re-hospitalizations**
- **Contained medical costs³¹**

In the non-acute setting, a cut-off of 125 pg/mL is recommended for HF rule-out³².

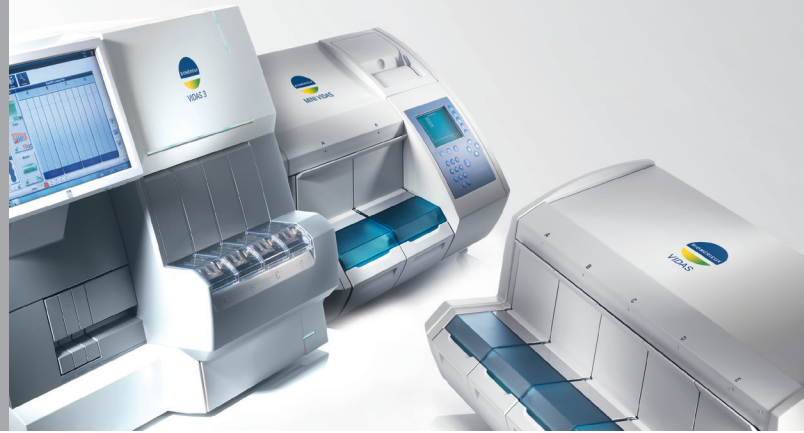
- **Safe exclusion of ~50%** of outpatients with suspected VTE in low & medium PTP groups³³
- **Cost-effective and efficient solution³⁴** that prevents unnecessary radiation exposure
- **Most tested and referenced D-dimer assay available**

VIDAS® D-DIMER EXCLUSION™ II is the only assay validated in the HERDOO2 clinical decision rule to assess the risk of VTE recurrence in women with unprovoked VTE under oral anticoagulants³⁵.

- **Safe rule-out and accurate rule-in** of AMI (NSTEMI) in 70% of suspected chest pain patients³⁶
- **2h and 3h validated algorithms** to deliver a reliable diagnosis
- **Aid in risk stratification** of patients with symptoms suggestive of ACS with respect to MACE* rate at 30 days


* Major Adverse Cardiovascular Event

VIDAS® EMERGENCY PANEL



BECAUSE IT MAKES SENSE ON VIDAS®

All key emergency tests on **a single instrument**, allowing you to **manage the STAT samples apart from your routine activity**



24/7
On-demand
automated
testing



Rapid
results:
only 20 minutes
easy-to-use
benchtop instrument



1 patient
1 test



All-inclusive
kits, limited
calibrations
and controls



MTBF
>700
days

High-quality and cost-effective diagnostic tests for rapid, safe and efficient patient triage

Discover bioMérieux range of clinical booklets for diagnostics support on <https://www.biomerieux.com/en/educational-booklets>

	VIDAS® Emergency panel	
VIDAS® B•R•A•H•M•S PCT™	30450	60 tests
VIDAS® NT-proBNP2	30458	60 tests
VIDAS® High sensitive Troponin I	415386	60 tests
VIDAS® CK-MB	30421	30 tests
VIDAS® Myoglobin	30446	30 tests
VIDAS® D-DIMER EXCLUSION™ II	30455-02	60 tests

Some of these reagents have not yet obtained regulatory clearance in some countries and some references may vary according to the country. Please contact your local bioMérieux representative for further information and product availability.

REFERENCES

- Liu, JAMA 2014. **2**. Rudd KE *et al.*, Global, regional, and national sepsis incidence and mortality, 1990-2017: analysis for the Global Burden of Disease Study, Lancet 2020; 395: 200-11. **3**. Kumar A, *et al.* Crit Care Med. 2006 Jun; 34(6): 1589-96. **4**. Brunkhorst FM, Heinz U, Foyck ZF. Intensive Care Med 1998; 24:888-9. **5**. WHO. **6**. Fleming-Dutra KE, *et al.* JAMA. 2016 May 3;315(17):1864-73. **7**. D D Creer *et al.* Thorax. 2006 Jan; 61(1): 75-79. **8**. P. Ponikowski *et al.* ESC Heart Failure 2014; 1: 4-25. **9**. M. R. Cowie *et al.* ESC Heart Failure 2014; 1: 110-145. **10**. Azad N, Lemay G, JGC. 2014; 11(4): 329-337. **11**. M. R. Cowie *et al.* ESC Heart Failure 2014; 1: 110-145. **12**. Matsue Y, *et al.* J Am Coll Cardiol. 2017; 69: 3042-3051. **13**. Januzzi JL, van Kimmenade R, *et al.* Eur Heart J. 2006; 27:330-7. **14**. Cohen AT, Agnelli G. Thromb Haemost. 2007; 98: 756-64. 15. <http://www.worldthrombosisday.org> (2015). **16**. Huisman MV, Klok FA, J Thromb Haemost 2013; 11: 412-22. **17**. Righini M, Perrier A, De Moerloose P, Bounameaux H, J Thromb Haemost. 2008; 6: 1059-71. **18**. Konstantinides SV, *et al.* Eur Heart J. 2014;35:3033-69. 3069a-3069k. **19**. Roffi M, *et al.* Eur Heart J. 2016; 37: 267-315. **20**. Mueller C, *et al.* Eur Heart J. 2015 Aug 29, pii: ehv409. **21**. 2015 ESC guidelines. **22**. Mueller C, *et al.* Eur Heart J Acute Cardiovasc Care. 2017; 6: 218-222. **23**. Mockel M, *et al.* Eur Heart J Acute Cardiovasc Care. 2017; 6: 212-217. **24**. Gregoriano C, *et al.* J. of Thor Dis 2020; 12(suppl 1): S5-S15. **25**. MOSES study: CCMjournal.org 2017. **26**. Iankova I *et al.*, Critical Care Medicine, 46(5)2017. **27**. Hoste EAJ *et al.* J Am Soc Nephrol. 2003; 14: 1022-1030. **28**. Albrich WC, *et al.* Arch Intern Med. 2012; 172(9): 715-722. **29**. Schuetz P, *et al.* Cochrane Database Syst Rev. 2017; 10: CD007498. **30**. Schuetz P, *et al.* Lancet Infect Dis. 2017 S1473-3099(17)30592-3. **31**. Moe GW, Howlett J, Januzzi JL, *et al.* Circulation. 2007; 115: 3103-10. **32**. Ponikowski P, Voors AA, Anker SD, *et al.* Eur Heart J. 2016; 37: 2129-200. **33**. VIDAS® D-DIMER EXCLUSION™ II Package insert. **34**. Righini M, *et al.* J Thromb Haemost. 2007; 5: 1869-77. **35**. M.A. Rodger *et al.* Thrombosis Research 169 (2018) 82-86. **36**. VIDAS® High sensitive Troponin I Package insert.