Take your lab's performance to the peak
with cobas® 8000 modular analyzer series

Roche

cobas®

Take your lab's performance to the peak
with cobas® 8000 modular analyzer series

Reliability of your analyzer and vendor are critical to maximizing your lab's success and upholding the standard of care to which you aspire.

cobas® 8000 modular analyzer series is a scalable module based Serum Work Area solution for a wide range of in vitro diagnostics testing of Immunochemistry and Clinical chemistry designed for high throughput laboratories. This means unprecedented productivity and distinctive uptime, the broadest assay menu on one consolidated platform and continuous access to breakthrough assays that let you stay at the forefront of the industry.

Your time is precious
We help you use it wisely

In the lab, every minutes counts – for you and your team, for the physician and the healthcare institution, for the patient and their family. Any inefficiencies and unexpected interruptions result in delays which are costly. **cobas**® 8000 modular analyzer series is designed to help you use your time wisely.

Ensure non-stop operation through exceptional uptime

Reliability is the foundation of efficiency for today's leading labs as unreliability can have a widespread impact on a lab's performance. Unplanned downtime can lead to interruption of services and lost revenue, outsourcing of tests and increased risk of diminished quality of results. **cobas®** systems are designed to ensure non-stop operation and are well known and trusted in the field for their high reliability.

Less interruption of services

Less troubleshooting

More productivity

More predictable turnaround time

Reliability you can trust

cobas® 8000 modular analyzer series delivers a distinctive uptime of more than 99%, proven by more than 8'000 installations in the market and 17'000 analytical units worldwide[1]. Having a reliable analyzer means less interruption of services and less time spent on troubleshooting, thus higher productivity with more predictable turnaround times.
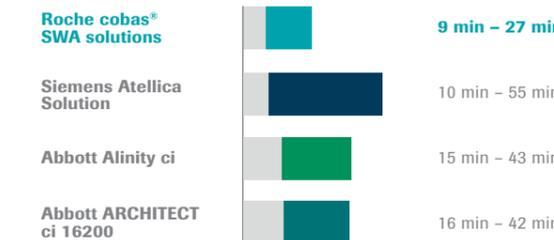
*Empower your physicians
to take action faster*

Standards are being raised across health systems, as patient and physician satisfaction and fast clinical decision making are becoming more prominent quality metrics. Choosing an analyzer that supports short and predictable turnaround times at peak times is a key to meet these standards.

**Get answers fast with short
and predictable turnaround times**

Another key aspect of the time spectrum is the Turnaround time (TAT). Comparing it to competitive systems, **cobas e** 801 analytical unit offers the shortest turnaround times and thus faster result delivery to physicians and patients for vital clinical decision making. **cobas e** 801 also offers less variability in assay times which means more predictability.

Immunochemistry incubation times by vendor[2]

Roche cobas® SWA solutions		**9 min – 27 min**
Siemens Atellica Solution		10 min – 55 min
Abbott Alinity ci		15 min – 43 min
Abbott ARCHITECT ci 16200		16 min – 42 min

Your space is limited
We help you make the best of it

Growth brings opportunities but also challenges. While working to expand testing services and increase revenue you may ask yourself: how can you handle the higher volumes in the most cost- and space-efficient way? The **cobas®** 8000 modular analyzer series is designed to deliver true productivity for your lab.

*Make sure you decide
for true productivity*

Ultimately, each lab wants a solution that delivers maximum productivity per invested space. However, how exactly do you define productivity? At Roche we believe that there are 3 key system characteristics that lead to true productivity and we continuously strive to deliver these for your lab:
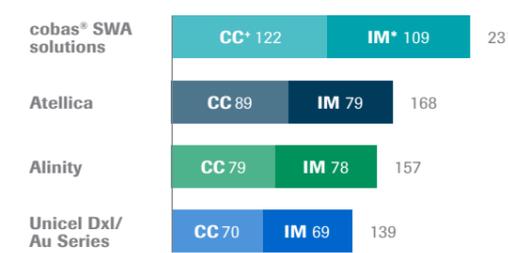
1. High throughput per square meter to manage the large volume of testing efficiently
2. Broad assay menu to eliminate the need for different analyzers and/or outsourcing
3. High number of reagent channels to consolidate more testing on a single platform

High throughput per square meter[3]

cobas® 8000*	769
Atellica*	555
Alinity*	644

cobas® 8000 Core unit | ISE | c 702 | c 702 | e 801 | e 801
Atellica 2* Sample handlers l 3* Atellica CH l 2* Atellica IM
Alinity 2* Alinity cic l 1* Alinity i

Broad assay menu[4]

cobas® SWA solutions	CC* 122	IM* 109	231
Atellica	CC 89	IM 79	168
Alinity	CC 79	IM 78	157
Unicel DxI/ Au Series	CC 70	IM 69	139

*Immunochemistry | °Clinical chemistry

Maximum number of reagent channels per one line of cobas® 8000 modular analyzer

SWA configurations   Up to **258** reagent channels

Clinical chemistry configurations   Up to **280** reagent channels

Immunochemistry configurations   Up to **192** reagent channels

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Your team is pushed to their limits
We help them focus on the tasks that matter

Whilst the pressure to deliver from many different angles increases, keeping your team engaged and focused on the tasks of importance can be difficult but is of paramount importance for your lab's success. The **cobas**® 8000 modular analyzer series is designed to eliminate hurdles that may cause unnecessary stress.

Increase peace of mind for your team with reliable and safe solutions

With **cobas**® 8000 modular analyzer series we strive to ensure trust in the results through various safety features such as contact-free mixing and disposable tips. The high reliability resulting in more than 99% uptime[1] of our analyzer is another aspect which increases peace of mind for your team.

Contact-free mixing
Clinical Chemistry

Disposable tips
Immunochemistry

Enable your team to work more efficiently through standardized solutions

Lab standardization enables you to do more work on fewer instruments, through consolidation of workflow, systems and reagents. Standardization also provides efficient and compatible solutions for network cooperation. With the **cobas**® Serum Work Area systems Roche offers analytics platforms that satisfy low-, medium- and high-volume testing needs, all standardized on the same reagents, detection technology, reference ranges and sharing common user interfaces.

Essential benefits of standardization

Improved speed and accuracy of care
Same reagents and detection technology mean standardized reference ranges which reduce the need for rebaselining.

Population management
Larger and consistent datasets enable healthcare professionals to interpret greater health trends for true population health management.

Simplified training and staff allocation
Common user interfaces between our **cobas**® systems mean simplified staffing and training, as well as flexible staff allocation.

Same reagents | Same detection technology | Same reference ranges | Common user interfaces

Central laboratory

cobas® 8000 modular analyzer series
cobas® **pro** integrated solutions

Satellite laboratory

cobas® **pro** integrated solutions
cobas® **pure** integrated solutions*

Emergency laboratory

cobas® **pure** integrated solutions

Independent laboratory

cobas® 8000 modular analyzer series
cobas® **pro** integrated solutions
cobas® **pure** integrated solutions

* **cobas® pure** integrated solutions CE mark expected in Q1 2021

Reduce tedious manual work with ready to use reagents

Ready to use reagents further contribute to a reduced workload. There is no preparation, no mixing, no pre-opening and no waiting needed. Simply take the reagent and load it onto the system.

cobas e 801

Reduce tedious manual work through integration into lab automation

At Roche, laboratory automation solutions deliver the quality and reliability you
 expect, with the personalization required by low-, mid- and high-volume laboratories.
With a complete portfolio in the market, Roche's Personalized Lab Automation provides
customized solutions for every lab.

Virtual automation

Virtual automation gives you the capability
to track your samples and reduce manual
tasks through **cobas®** infinity IT solutions.

Standalone automation

Pre- and post-analytical tasks are automated,
significantly reducing manual steps in the
lab, enhancing error handling, safety and
process quality. (**cobas p** 312, **cobas p** 512,
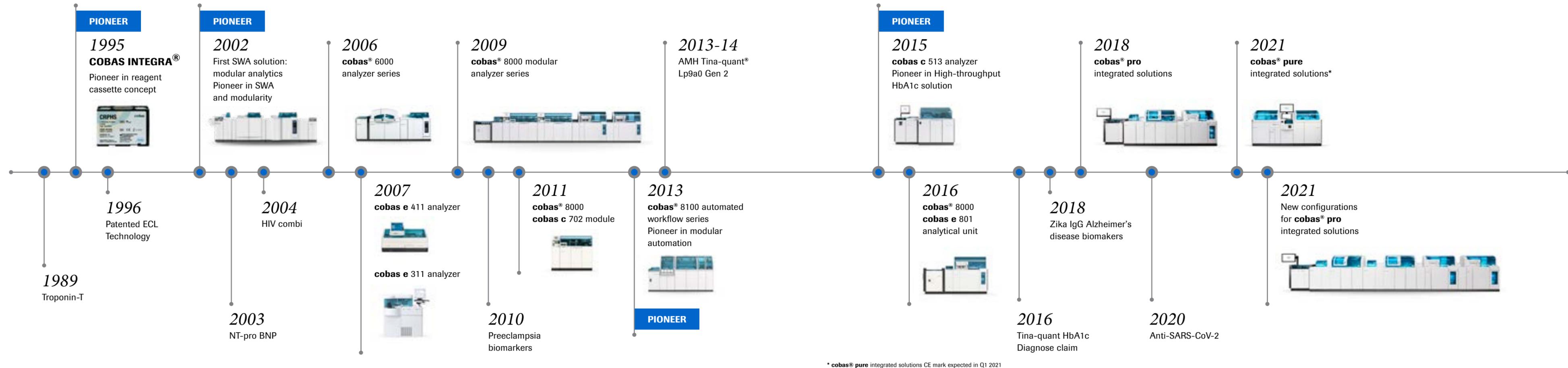**cobas p** 612, **cobas p** 501, **cobas p** 701)

Connected automation

Additionally, connected automation offers
transportation, physically connecting
different instruments and allowing for
maximum predictability of time to test
results. (**cobas®** connection modules,
cobas® 8100 automated workflow series)

Your future is unpredictable
We help you succeed through continuous access to innovations

Choosing the right solution and vendor to partner with is not a small undertaking – it is a choice that impacts your lab's ability to fulfill performance and quality standards but also your ability to remain competitive. At Roche we believe in the power of innovation to advance and improve diagnostics possibilities and accessibility – for a better future of the patients and your lab. This is why we are committed to high investment in R&D – the highest in the life sciences industry and among the top 10 in any industry[5] - with two key objectives: to continue pioneering lab solutions and delivering greater medical value.

Timeline

PIONEER

1995
COBAS INTEGRA®
Pioneer in reagent cassette concept

1996
Patented ECL Technology

1989
Troponin-T

PIONEER

2002
First SWA solution: modular analytics Pioneer in SWA and modularity

2003
NT-pro BNP

2004
HIV combi

2006
cobas® 6000 analyzer series

2007
cobas e 411 analyzer

cobas e 311 analyzer

2009
cobas® 8000 modular analyzer series

2010
Preeclampsia biomarkers

2011
cobas® 8000 **cobas c** 702 module

2013
cobas® 8100 automated workflow series Pioneer in modular automation

PIONEER

2013-14
AMH Tina-quant® Lp9a0 Gen 2

PIONEER

2015
cobas c 513 analyzer Pioneer in High-throughput HbA1c solution

2016
cobas® 8000 **cobas e** 801 analytical unit

2016
Tina-quant HbA1c Diagnose claim

2018
cobas® pro integrated solutions

2018
Zika IgG Alzheimer's disease biomakers

2020
Anti-SARS-CoV-2

2021
cobas® pure integrated solutions*

2021
New configurations for **cobas® pro** integrated solutions

* **cobas® pure** integrated solutions CE mark expected in Q1 2021

Partner with a company that has a proven track record of pioneering lab solutions

Our History of Innovation

In 2002, we introduced the concept of 'Serum Work Area', pioneering the integration of Clinical chemistry and immunochemistry.

As the first to offer modularity and scalability for growing testing needs, we introduced the first common reagent designed to reduce the complexity of laboratory operation and provide compatible solutions for laboratory networks.

Our success from the past however doesn't stop us from continuously looking ahead and challenging the status quo. Three of many areas Roche is investing in include the integrated core lab, mass spec and digital diagnostics.

Focused innovation of our assay portfolio

1. Menu expansion with new assays in the areas of unmet medical needs
2. Generating new claims for existing assays
3. Extending the evidence-base for existing assays

Commitment to exceptional assay quality

Advanced assay design
- Measuring range precision
- High sensitivity
- Wide measuring ranges

Consistent, standardized results
- Consistent patient results across all platforms
- Excellent lot-to-lot consistency
- Standardized assay reference method or material

Designed for convenience
- Short and predictable assay TAT
- Low sample volume
- No reagent preparation required

Support better outcomes by delivering greater medical value

Roche strategy to deliver medical value is through focused innovation on expanding our assay portfolio and commitment to exceptional assay quality because accurate results support the most efficient and effective delivery of patient care[6].

cobas® 8000 modular analyzer series
At a glance

01

02

03

04

01 Core unit
The core unit is always on the left side of the instrument and it is the loading and unloading point for samples, achieving a throughput of up to 1000 samples per hour. It features a dedicated STAT port for easy prioritization of emergency samples and allows for a bidirectional connectivity to pre-analytics.

02 ISE module
The **cobas** ISE module measures the concentration of sodium (Na+), potassium (K+) and chloride (Cl–). It is available in two configurations with identical footprint but different throughout: 900 or 1,800 tests per hour.

03 Up to 4 analytical units
One configuration of the **cobas®** 8000 modular analyzer series can consist of one up to four analytical units. The modular and scalable design of **cobas®** 8000 modular analyzer series offers more than 130 configurations with many choices to tailor solutions to individual laboratory needs now and in the future.

04 Module sample buffer
A module sample buffer (MSB) is attached to the left of each cobas c module and of each **cobas e** module. The MSBs serve as a buffering rack and can deliver sample racks to any module at any time. The MSBs allow for efficient sample transport and management across the analyzer.

cobas® 8000 modular analyzer series
At a glance

cobas® 8000 modular analyzer core unit | up to **1,000** samples/hour

ISE module	Clinical chemistry	Immunochemistry

ISE

Up to **900** tests/hour
Up to **1,800** tests/hour

cobas c 701

Up to **2,000** tests/hour
70 reagent channels

cobas e 801

Up to **300** tests/hour
48 reagent channels

cobas c 702

Up to **2,000** tests/hour
70 reagent channels

Configuration possibilities

Combinations of those analytical units offer more than 130 configurations with many choices to tailor solutions to individual laboratory needs.

Serum Work Area (SWA) configurations
cobas® 8000 can be configured into a SWA configuration consisting of a combination of Clinical chemistry and Immunochemistry analytical units which are seamlessly integrated. The maximum SWA configuration includes one core unit + optional ISE module + a combination of up to 4 Clinical chemistry and Immunochemistry analytical units.

Maximum throughput and reagent channel positions	Up to **8,100** tests/hour Up to **258** reagent channels

Clinical chemistry configurations
The maximum Clinical chemistry configuration includes one core unit + optional ISE module + a combination of up to 4 Clinical chemistry modules.

Clinical chemistry configurations	Up to **9,800** tests/hour Up to **280** reagent channels

Immunochemistry configurations
cobas® 8000 can be configured into a Immunochemistry only configuration. The maximum Immunochemistry configuration includes one core unit + a combination of up to 4 Immunochemistry analytical units.

Immunochemistry configurations	Up to **1,200** tests/hour Up to **192** reagent channels

cobas® 8000 modular analyzer series
Overview of core components and analytical units

Core components

Clinical chemistry

Immunochemistry

Core Unit
- Loading capacity of 300 samples (15 racks/tray, 5 samples/rack)
- Throughput of up to 1,000 samples/hour
- Dedicated STAT port
- Optional sample rotation unit

cobas ISE module
- Sodium, potassium, chloride
- 900 or 1,800 tests/hour
- ISE specific sample probe with clot detection
- Independent processing line

Module Sample Buffer (MSB)
- Capacity for 20 sample racks; additional capacity of 100 samples per module
- Environmental controlled compartment for 5 Auto QC racks
- Backup operation port
- Random access for the racks; racks can go from everywhere to everywhere

cobas c 702 module
- Clinical chemistry, homogeneous Immunochemistrys
- Throughput of up to 2,000 tests/hour
- 70 reagent channels
- Specimen integrity via serum indices, clot and liquid level detection
- Contact free ultrasonic mixing
- 2 sample probes
- 4 reagent probes
- Pipetting cycle time of 1.8 seconds

+

Reagent Manager
- 10 reagent positions
- Reagent RFID reader
- Continuous reagent loading during operation
- Automatic reagent cassette decapping
- Automatic reagent cassette unloading

cobas c 701 module
- Clinical chemistry, homogeneous Immunochemistrys
- Throughput of up to 2,000 tests/hour
- 70 reagent channels
- Specimen integrity via serum indices, clot and liquid level detection
- Contact free ultrasonic mixing
- 2 sample probes
- 4 reagent probes
- Pipetting cycle time of 1.8 seconds

cobas e 801 analytical unit
- Heterogeneous Immunochemistrys
- Throughput of up to 300 tests/hour
- 48 reagent channels
- Carryover-free disposable tips
- Clot and air bubble detection

+

Reagent Manager
- Reagent RFID reader
- Continuous reagent loading during operation
- Automatic reagent packs unloading

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cobas® 8000 modular analyzer series
Technical specifications

Configurations	The system offers more than 130 scalable configurations. A configuration consists of the core unit and 1 up to 4 analytical units (excluding the optional cobas ISE module). The analytical units are: **cobas** ISE module, **cobas c** 701 module, **cobas c** 702 module, **cobas e** 801 module.
Detection methods	*Clinical Chemistry:* Photometric *Immunochemistry:* Electrochemiluminescence (ECL)
Maximum throughput	Up to 9800 tests/hour/configuration **cobas** *ISE module:* up to 1800 tests/hour **cobas c** *702 module:* up to 2000 tests/hour **cobas c** *701 module:* up to 2000 tests/hour **cobas e** *801 module:* up to 300 tests/hour
Sample types	Serum, Plasma, Urine, CSF and Supernatant
Sample tubes	*w* 13 x 75 mm, *w* 13 x 100 mm, *w* 16 x 75 mm, *w* 16 x 100 mm, Hitachi standard cup 2.5 ml, **cobas** sample cup 2.5 ml, Hitachi microcup 1.5 ml *w* 11-16 x 63-102 mm
Pediatric sample tube	Yes (Hitachi microcup: 50 µl dead volume)
Sample capacity	*Core unit loading capacity:* 300 samples *Module Sample Buffer (MSB) capactiy:* 100 samples *Core unit throughput:* up to 1000 samples/hour
Sample volume	**cobas c** *701 module:* Average 5.5 µl **cobas c** *702 module:* Average 5.5 µl **cobas e** *801 module:* Average 19.4 µl
Automatic dilution	*Yes*

Reagent capacity	Up to 280 reagent channels/configuration **cobas** *ISE module:* Na, K and Cl **cobas c** *702 module:* 70 reagent channels **cobas c** *701 module:* 70 reagent channels **cobas e** *801 module:* 48 reagent channels
Reagent concept	Ready to use
Reagent loading	Continuous reagent loading during operation (valid for **cobas c** 702 module and **cobas e** 801 module)
Sample clot detection	Yes
Sample interference measurement	Serum indices (icterus, hemolysis, lipemia) measured on the Clinical chemistry modules
Remote diagnostics	Yes
Connectivity to smart phones and tablets	Up to 3 systems can be connected to smart phones and tablets (iOS and Android) using **cobas®** mobicheck application. The application allows the monitoring of the systems, alarms and reagent information.
Dimensions (W x D x H)	*Core unit (including STAT port):* 102 x 114 x 93 cm **cobas** *ISE module:* 45 x 114 x 115 cm **cobas c** *702 module (including MSB):* 150 x 114 x 135 cm **cobas c** *701 module (including MSB):* 150 x 114 x 135 cm **cobas e** *801 module (including MSB):* 150 x 114 x 162 cm
Weight	*Core unit:* 197 kg **cobas** *ISE module:* 180 kg (ISE 1800), 170 kg (ISE 900) **cobas c** *702 module (including MSB):* 759 kg **cobas c** *701 module (including MSB):* 697 kg **cobas e** *801 module (including MSB):* 610 kg
Electrical requirements	200/208/220/230 VAC, 50/60 Hz
Noise level	≤ 65 dB

cobas® 8000 modular analyzer series
Technical specifications (continued)

Pre-Analytics connectivity	Unidirectional, bidirectional
Power consumption	*Core unit (including the control unit):* 1 kVA (actual maximum: 0.4 kVA) ***cobas** ISE module:* 0.5 kVA (actual maximum: 0.2 kVA) ***cobas c** 701 module (including MSB):* 3 kVA (actual maximum: 2.3 kVA) ***cobas c** 702 module (including MSB):* 3 kVA (actual maximum: 2.3 kVA) ***cobas e** 801 module (including MSB):* 2 kVA (actual maximum: 1.5 kVA)
Heat generation	*Core unit (including the control unit):* 3600 kJ/h (actual maximum: 1440 kJ/h) ***cobas** ISE module:* 1800 kJ/h (actual maximum: 720 kJ/h) ***cobas c** 701 module (including MSB):* 10800 kJ/h (actual maximum: 8280 kJ/h) ***cobas c** 702 module (including MSB):* 10800 kJ/h (actual maximum: 8280 kJ/h) ***cobas e** 801 module (including MSB):* 7200 kJ/h (actual maximum: 5400 kJ/h)

References

1. *Calculation: (365 days /MTBRV) x (MTFRV + Travel Time).
    Data on file*

2. *Atellica Solution Specsheets, Operator Manual and excerpts from
    OM | 2017, Alinity ci-series Operations Manual and excerpts
    from OM | Architect i2000SR Operator manual (PN 201837-104)
    Extract page 4-4 | Elecsys assay menu - Analysis (source method
    sheets cobas e pack green)*

3. *cobas 8000 vs Atellica vs Alinity - Productivity Calculation*

4. *Method sheets cobas c 503, cobas e 801, Beckman AU 680, Beckman
    Unicel DxI, Abbott ARCHITECT c/i, Abbott Alinity c/i, Siemens Atellica
    CH/IM, Siemens Centaur*

5. *Roche Annual Report 2019, page 9 | Siemens Annual Report 2019,
    page 76 | Abbott Annual Report 2019, page 80 | Danaher Annual
    Report 2019, page 64*

6. *www.diagnostics.roche.com*