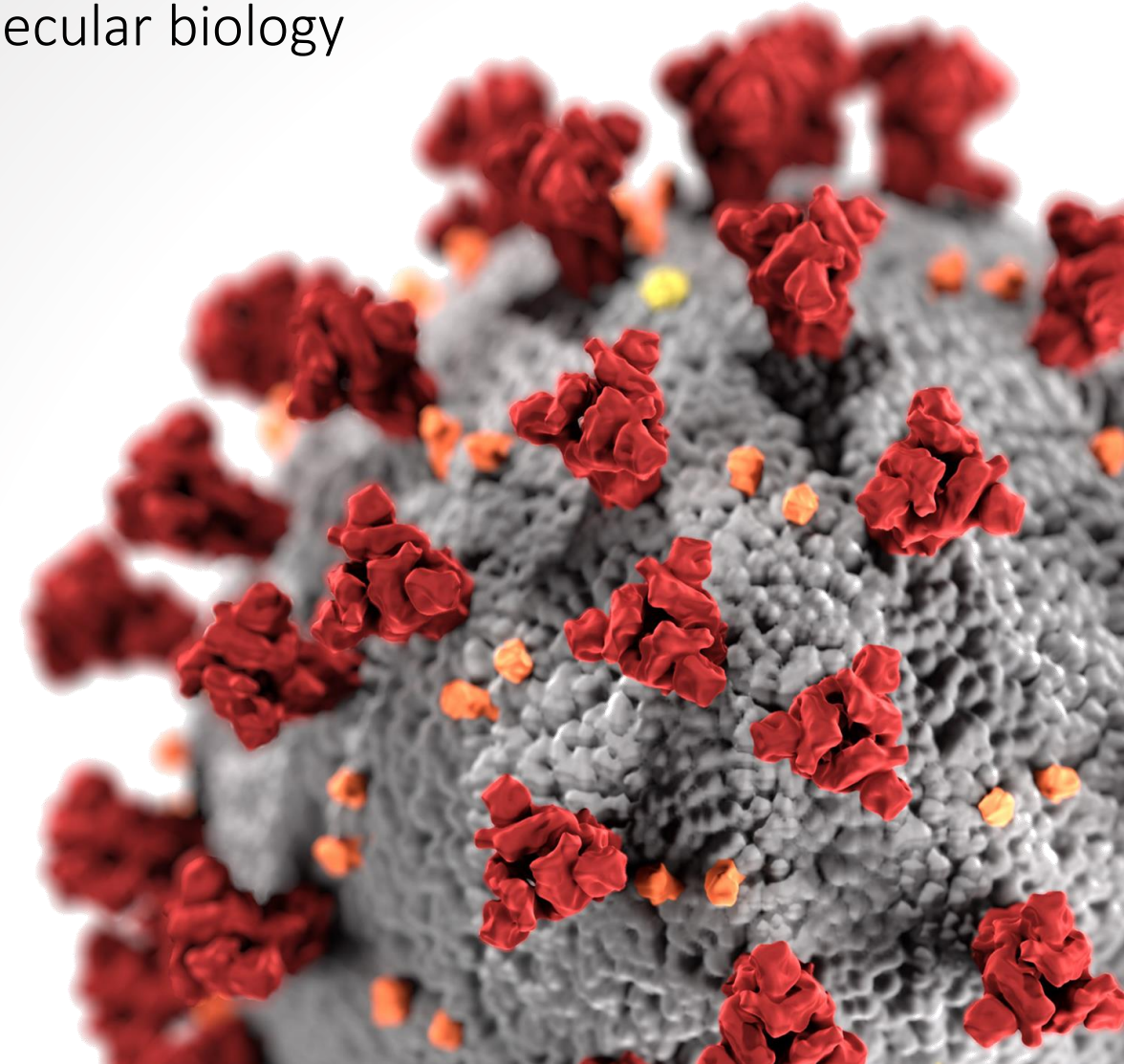
SwiftX™

Family of fast sample preparation solutions for molecular biology

www.xpedite-dx.com

info@xpedite-dx.com



Xpedite Diagnostics GmbH is an

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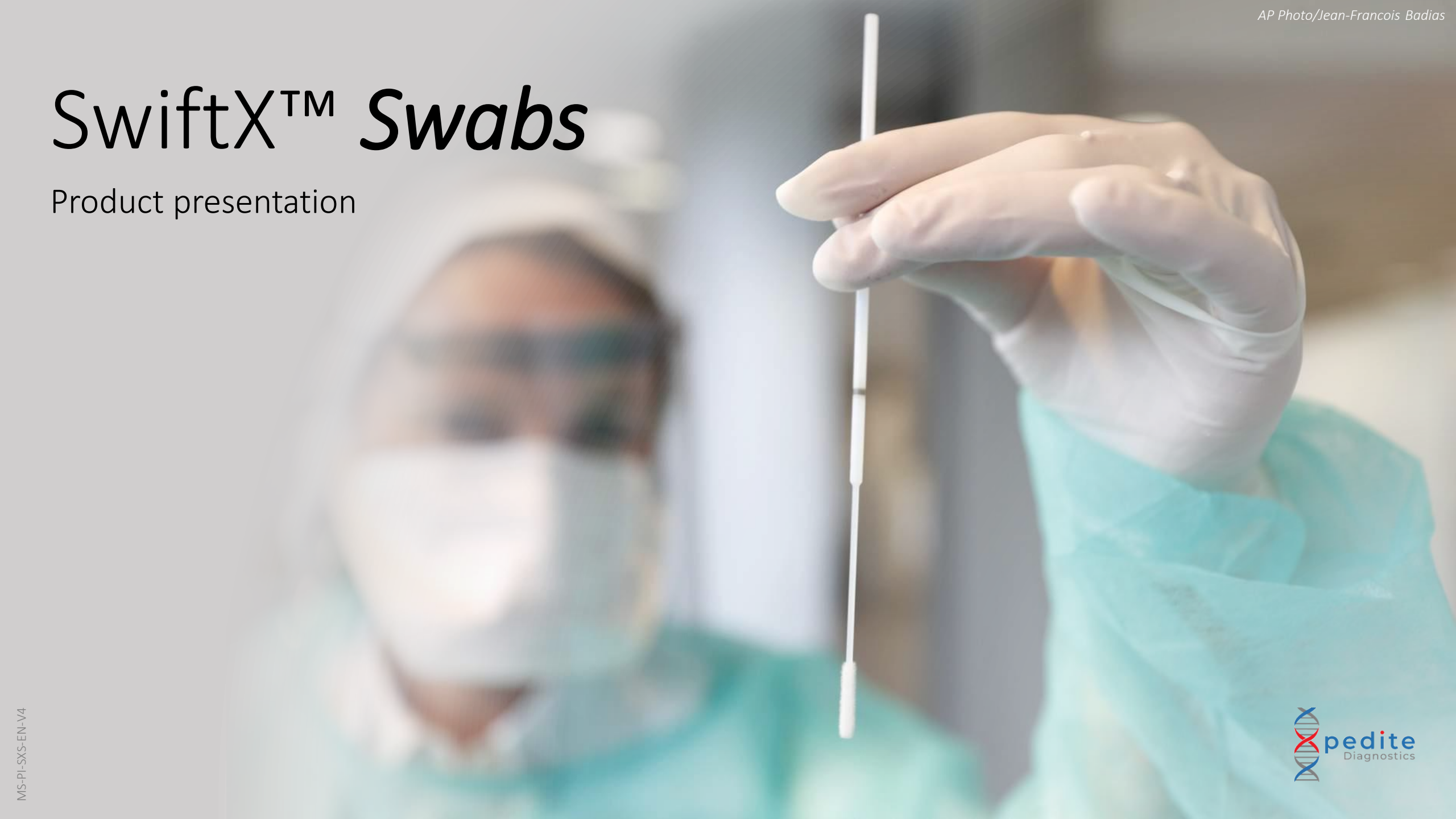

AP Photo/Jean-Francois Badias

SwiftX™ *Swabs*

Product presentation

MS-PI-SXS-EN-V4

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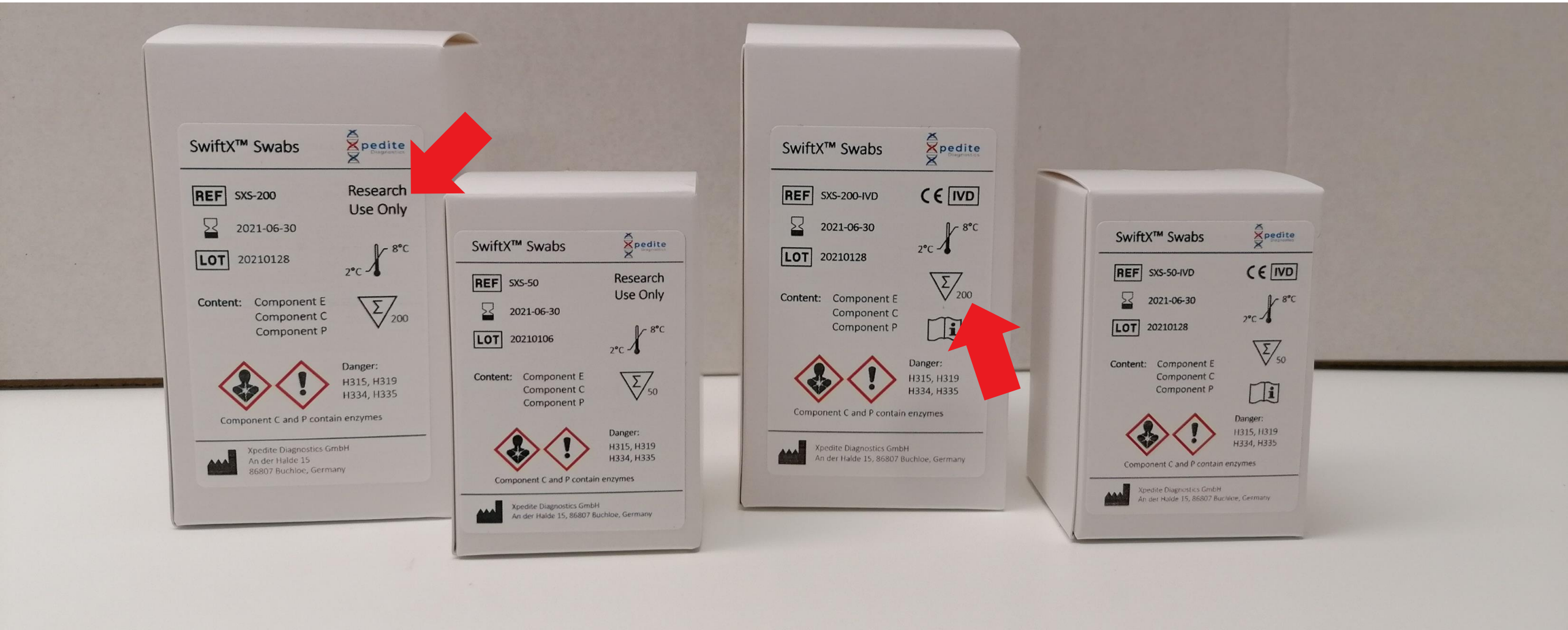
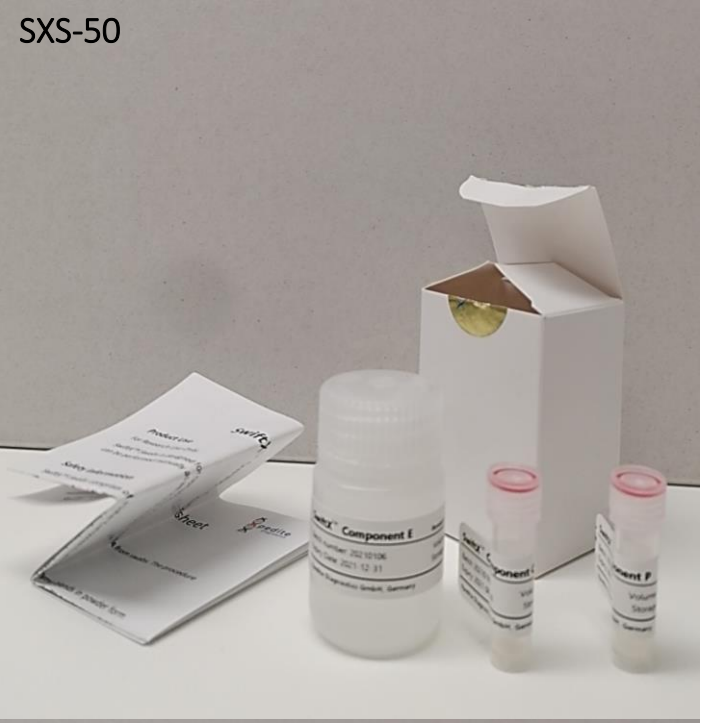
SwiftX™ ***Swabs*** – Product description

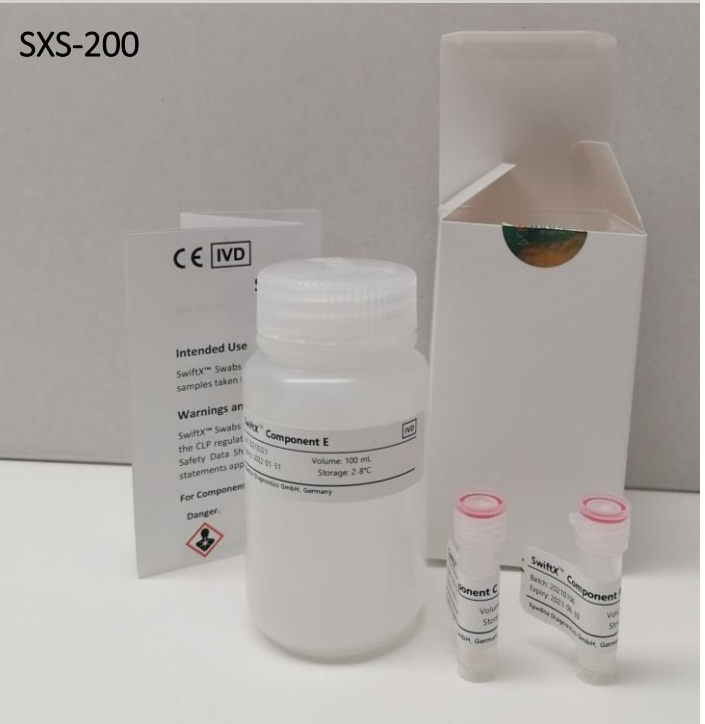
- 4 Kit formats: RUO and IVD in “50” or “200”



SXS-50



SXS-200



SwiftX™ ***Swabs*** – Product description

Content	Description	SXS-50 (RUO)	SXS-200 (RUO)	SXS-50-IVD	SXS-200-IVD
Component E	Lysis + RNA Stabilization buffer	25mL	100mL	25mL	100mL
Component C	Inhibitor removal enzymes	27mg	108mg	27mg	108mg
Component P	Lysis + inhibitor removal enzymes	27mg	108mg	27mg	108mg
Quick Protocol Sheet RUO		1	1		
Quick Protocol Sheet IVD				1	1

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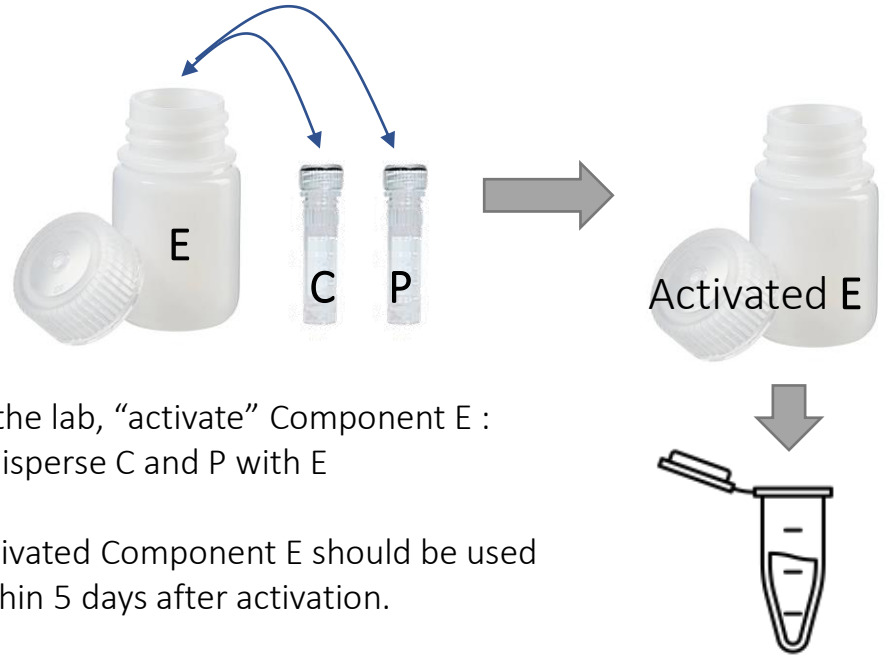
SwiftX™ ***Swabs*** – Product description

- **Kit content:**
  - SwiftX™ **Component E** : Lysis + RNA Stabilization buffer
  - SwiftX™ **Component C** : inhibitor removal enzymes
  - SwiftX™ **Component P** : Lysis + inhibitor removal enzymes



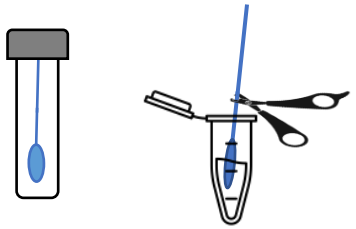
At the lab, “activate” Component E : redisperse C and P with E

Activated Component E should be used within 5 days after activation.

Prefill 1,5mL or 2mL tubes with 0,5mL activated E

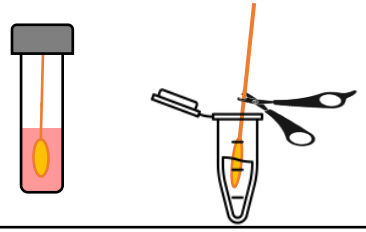
SwiftX™ ***Swabs*** – Workflow

Dry Swabs:
Any kind of swab is fine: PE, FLOQ, Cotton, etc even wood sticks work fine



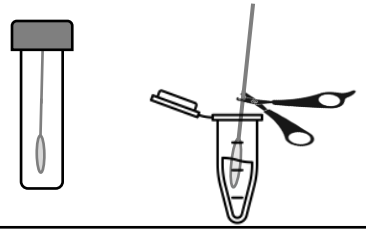
❶ Cut the swab in 500µL SXE*

Swabs in Media:
Any kind of media that does not contain guanidine (VTM, UTM, etc)



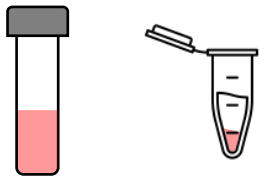
❶ Cut the swab in 500µL SXE*

Thin Swabs:
Usually dry (or in media)



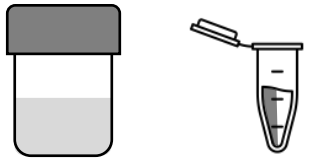
❶ Cut the swab in 300µL SXE*

Media:
Any kind of media that does not contain guanidine (VTM, UTM, etc)



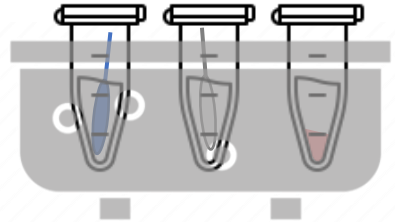
❶ Add 100µL of media to 400µL SXE*
(for 96 well plates: 40µL + 160µL)

Saliva

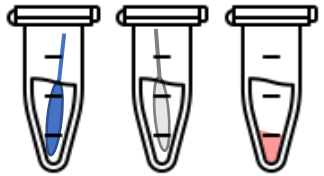


❶ Add 100µL of saliva to 100µL SXE*

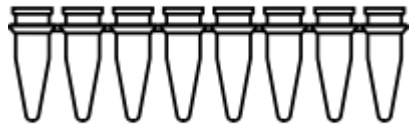
SXE* : **Activated** SwiftX **Component E**



❷ incubated 15min at 90°C.

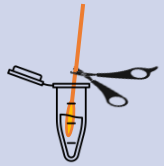
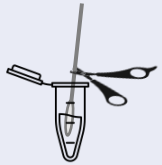


❸ Cool down to RT.



❹ Start your PCR
(compatible with any PCR kit)

SwiftX™ *Swabs* – Workflow

Protocol	SwiftX Swabs (50) contains 25mL + 2 enzyme tubes Min # samples with 1 kit:	SwiftX Swabs (200) contains 100mL + 2 enzyme tubes Min # samples with 1 kit:
500µL / swab 	25mL / 500µL = 50 samples	100mL / 500µL = 200 samples
300µL / swab 	25mL / 300µL = 84 samples	100mL / 300µL = 334 samples
400µL / 100µL VTM 	25mL / 400µL = 63 samples	100mL / 400µL = 250 samples
160µL / 40µL VTM 	25mL / 160µL = 157 samples	100mL / 160µL = 625 samples
100µL / 100µL Saliva 	25mL / 100µL = 250 samples	100mL / 100µL = 1000 samples

SwiftX™ *Swabs* – Overview

- Simple procedure: 15min using only 1 pipette tip.
  High throughput, >200 samples/hour.

- Cost efficient extracts SARS-CoV-2 RNA from
  - Dry swabs (polyester, FLOQ, cotton swabs,…)
  - VTM swabs, VTM media
  - Saliva

- Available as: CE-IVD (SXS-50-IVD, SXS-200-IVD)
  RUO (SXS-50, SXS-200)

- But how does SwiftX Swabs performs compared to “classical columns and magnetic bead extraction kits”?

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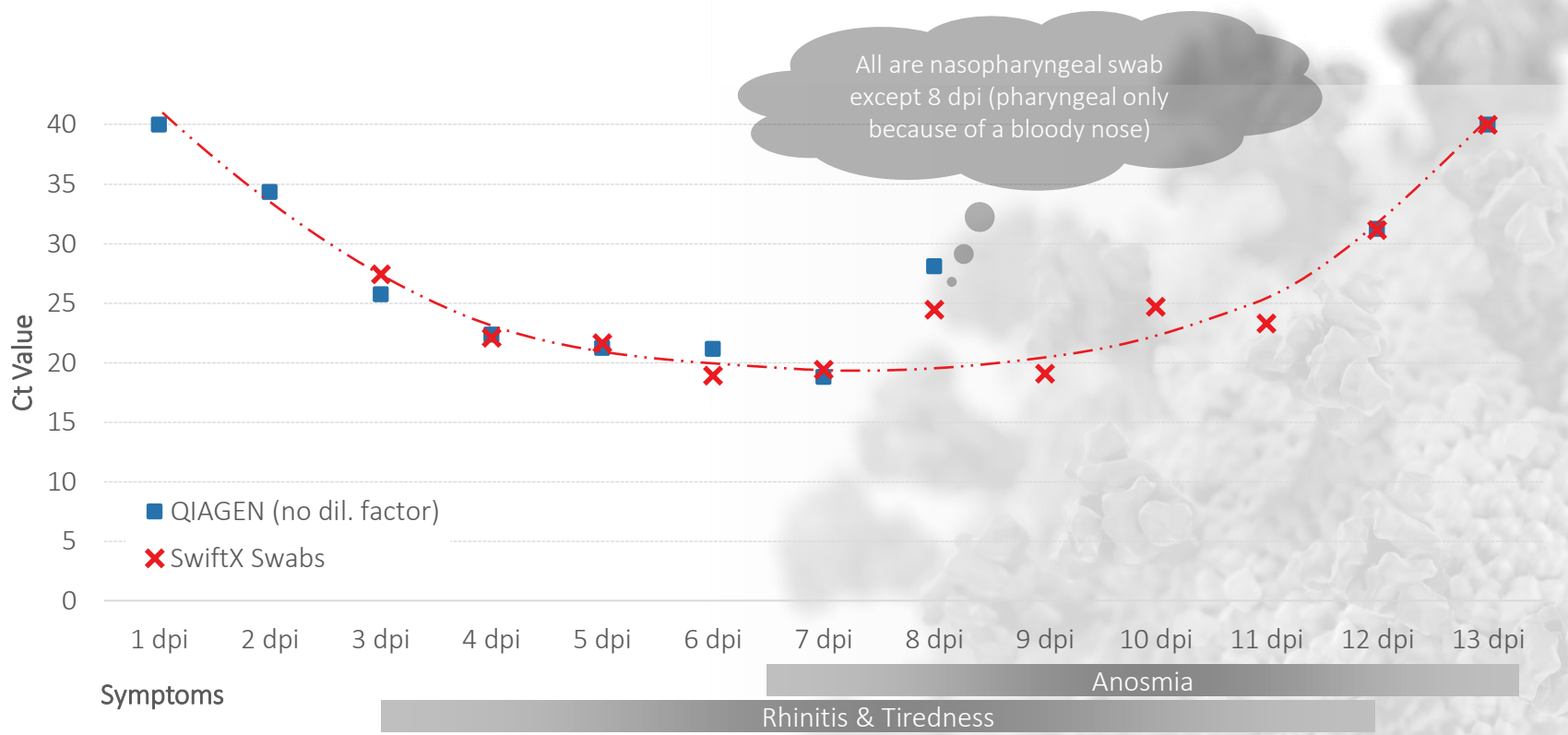
SwiftX™ *Swabs* – Application data

▶ **Compared to QIAGEN extraction and PCR, Data from Germany**

Data from a CoViD patient from the first day after his suspected infection using FLOQ, PE and cotton **dry swabs**.



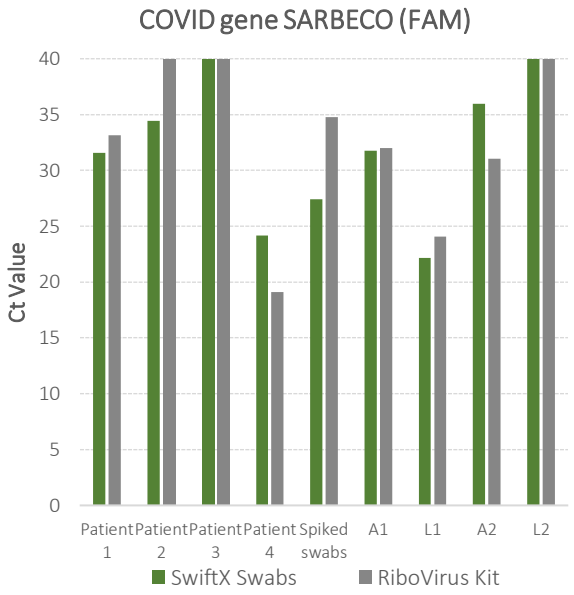
▶ SwiftX™ **Swabs** enables an equivalent detection of SARS RNA as QIAGEN made kits.

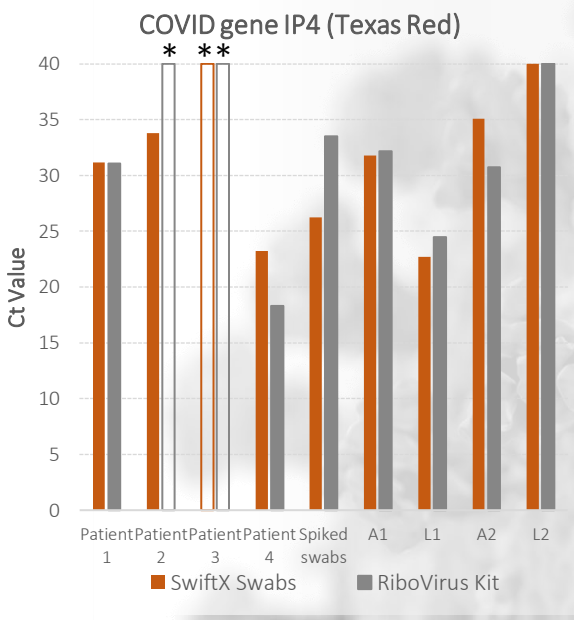
SwiftX™ ***Swabs*** – Application data

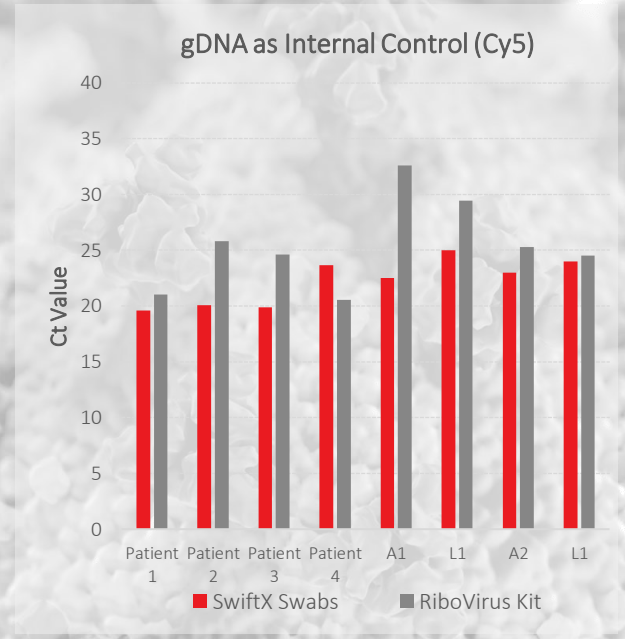
► **Compared to Ribovirus extraction kit, Genefirst COVID 19 PCR kit.**

From each CoViD Patient, 2 identical swabs samples are taken. Data from Hungary

One dry swab is eluted in activated SwiftX™ **Component E**. The other swab is eluted in VTM (WHO) and extracted using 50µL sample with the RiboVirus Kit (Sacace, Italy). All samples are run together with the same RT-qPCR amplifying the Sarbeco gene (Genefirst Covid-19 RUO, UK).







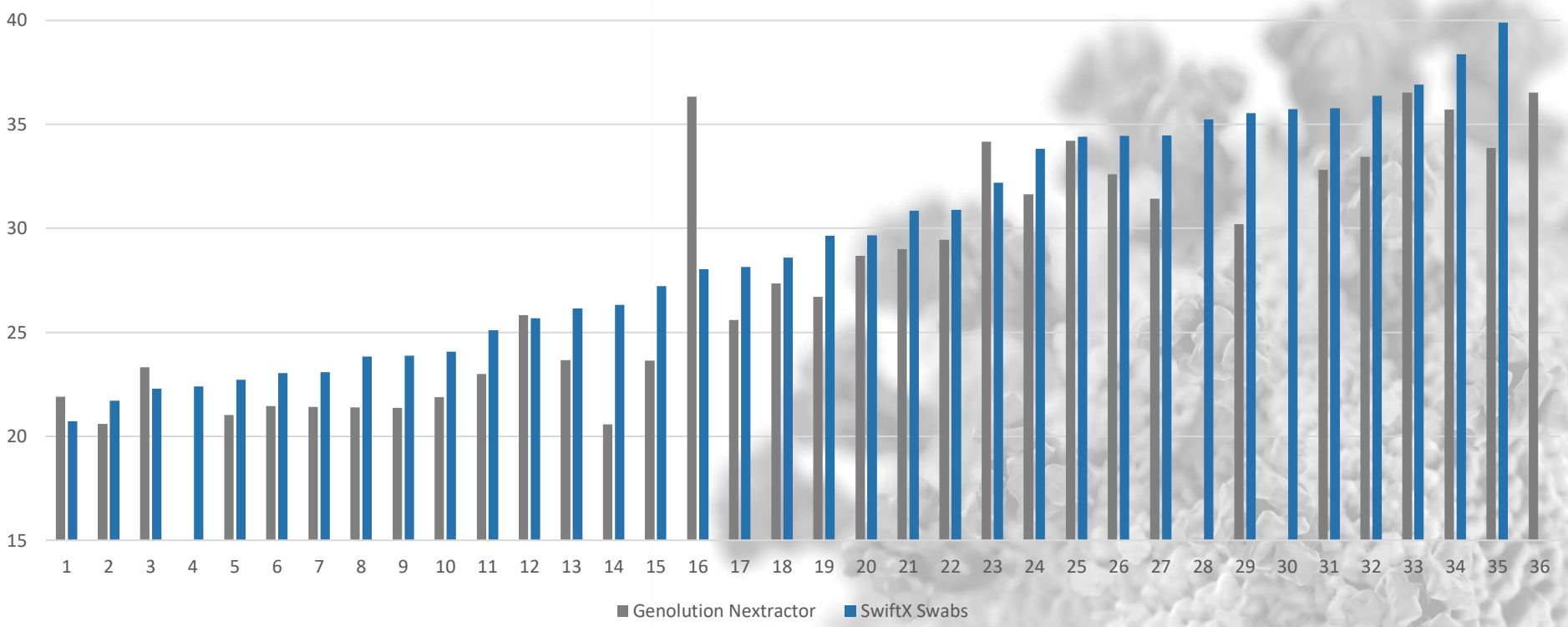
*abnormal amplification curves

► SwiftX™ **Swabs** works better than Ribovirus for <u>detecting weak positive</u> (Ct>30)

SwiftX™ ***Swabs*** – Application data

- **Compared to Genolution extraction kit, using Seegen Allplex PCR Kit.**

VTM samples from 36 confirmed positive patients. Samples were kept frozen and retested side by side. Data from Italy

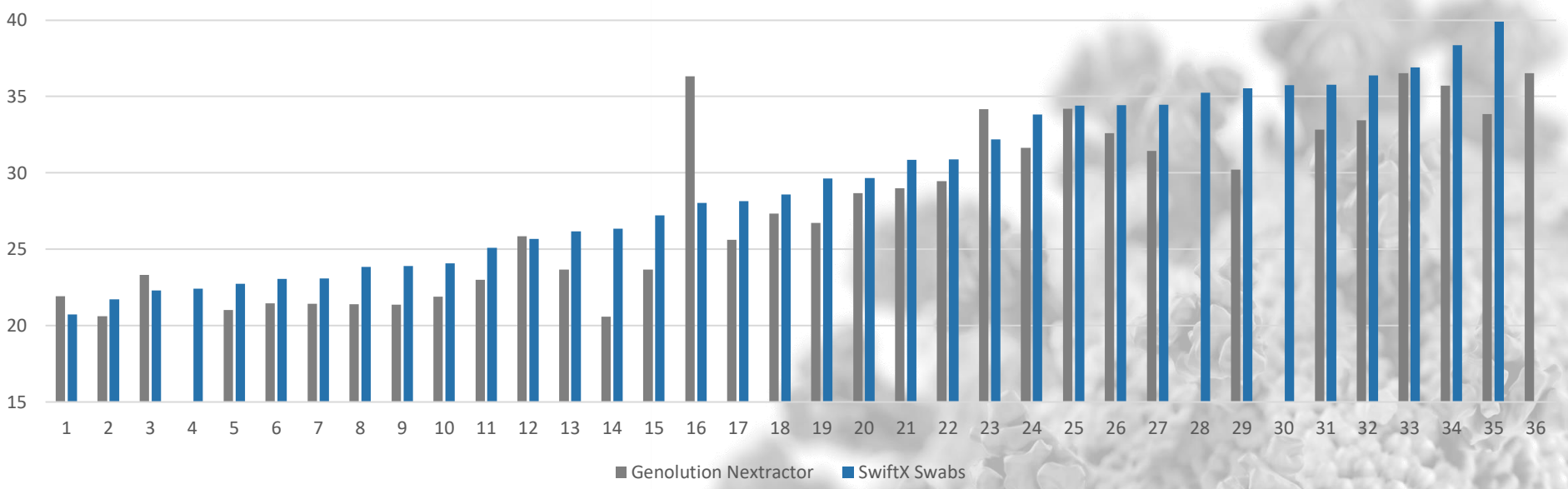


- SwiftX™ **Swabs** works better than Genolution (3 false negative)

SwiftX™ ***Swabs*** – Application data

- **Compared to Genolution extraction kit, using Seegen Allplex PCR Kit.**

VTM samples from 36 confirmed positive patients. Samples were kept frozen and retested side by side. Data from Italy



SwiftX Protocol:	Dilution 100µL sample in 400µL SwiftX
Genolution:	Concentration from 200µL VTM in 100µL elution

➔ SwiftX is expected to show in average + 3Ct value compared to Genolution.

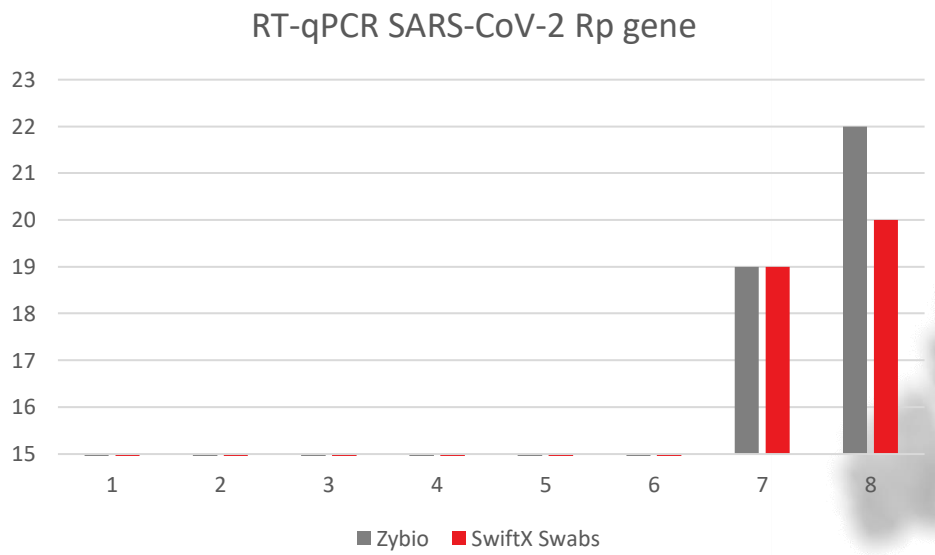
➔ But the actual data show only +1,3Ct value!

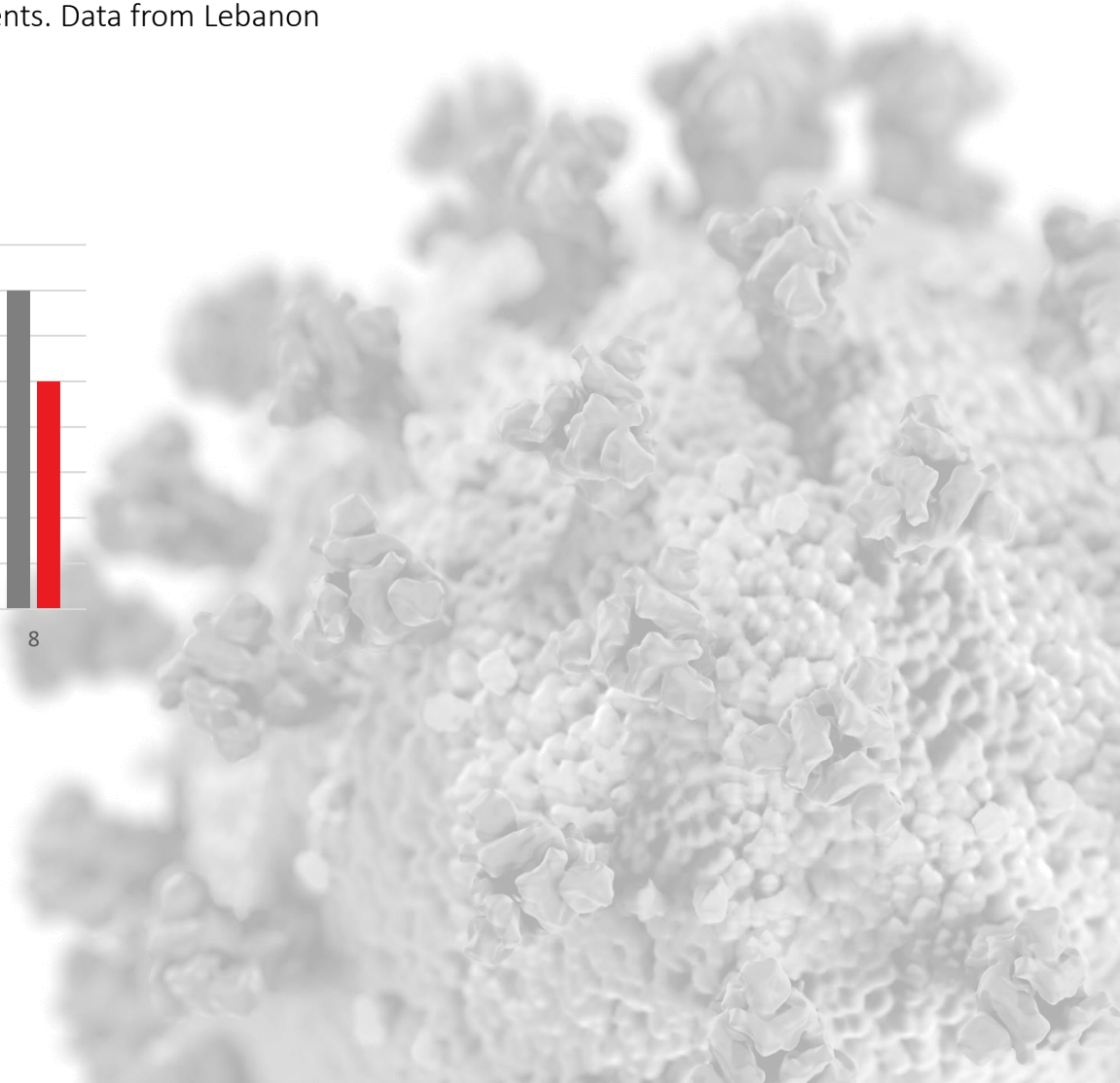
- SwiftX is better at removing inhibitors
- SwiftX is better to keep RNA stable and detectable, especially for weak samples.

SwiftX™ ***Swabs*** – Application data

- **Compared to Zybio extraction kit, using OSANG Healthcare Genefinder COVID-19 Plus PCR kit.**

VTM samples from 6 negative and 2 confirmed positive patients. Data from Lebanon





- SwiftX™ **Swabs** works equal or better than Zybio

SwiftX™ ***Swabs*** – Overview

- Simple procedure: 15min using only 1 pipette tip.
  High throughput, >200 samples/hour.

- Cost efficient extracts SARS-CoV-2 RNA from
  - Dry swabs (polyester, FLOQ, cotton swabs,…)
  - VTM swabs, VTM media
  - Saliva

- Available as: CE-IVD (SXS-50-IVD, SXS-200-IVD)
  RUO (SXS-50, SXS-200)

- **SwiftX Swabs performs as good or better than the "classical kits"**

SwiftX™ ***Swabs*** – Overview

- Simple procedure: 15min using only 1 pipette tip. High throughput, >200 samples/hour.

- Cost efficient extracts SARS-CoV-2 RNA from
  - Dry swabs (polyester, FLOQ, cotton swabs,…)
  - VTM swabs, VTM media
  - Saliva

- Available as: CE-IVD (SXS-50-IVD, SXS-200-IVD)
  RUO (SXS-50, SXS-200)

- SwiftX **Swabs** performs as good or better than the "classical kits"

- **But how does SwiftX Swabs performs compared to other "fast lysis protocols/kits"?**

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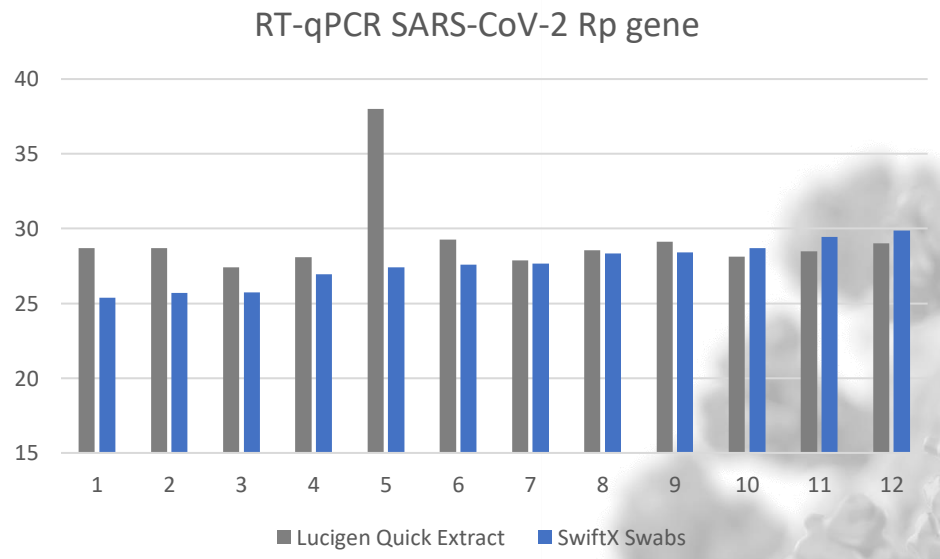
SwiftX™ ***Swabs*** – Application data

- **Compared to Lucigen QuickExtract extraction kit, Procomcure Phoenix Dx Performance mix and enzyme.**

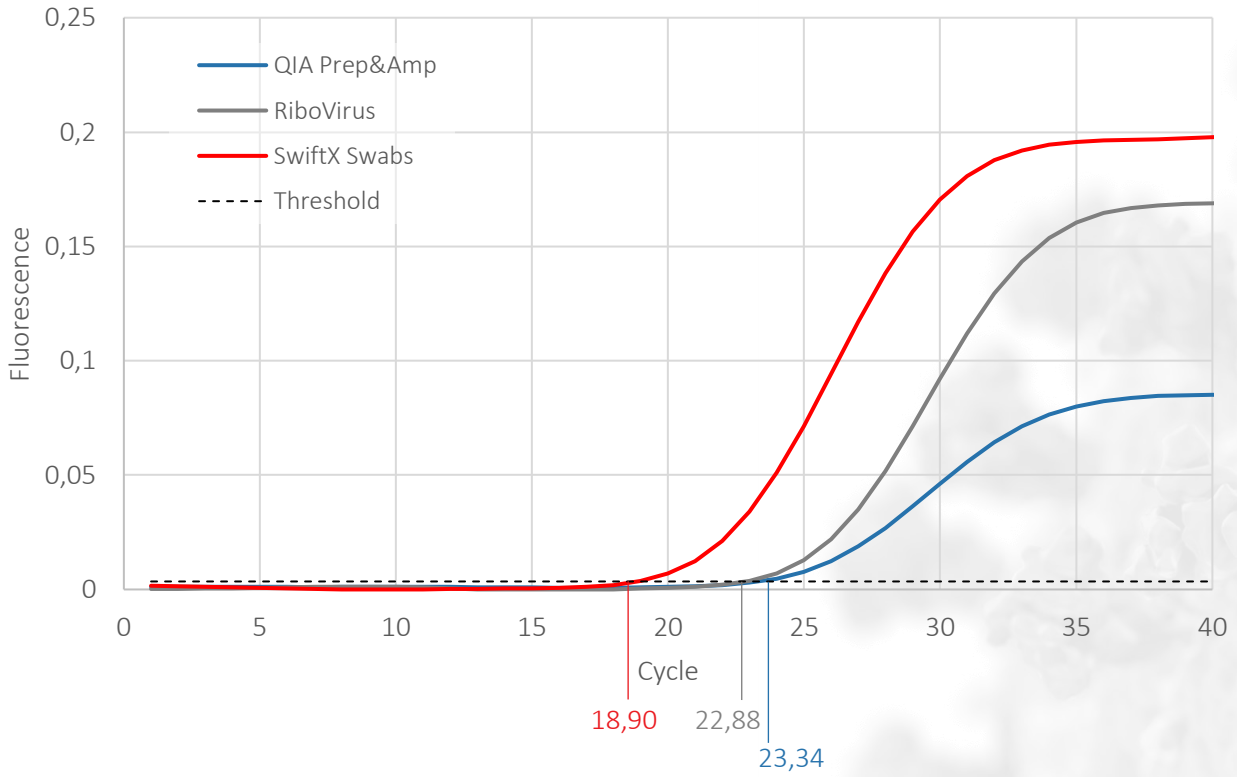
VTM samples from 12 confirmed positive patients. Samples were kept frozen and retested side by side. Data from UAE



- SwiftX™ **Swabs** works better (lower Ct values) than Lucigen

SwiftX™ ***Swabs*** – Application data

▶ Comparing to other direct amplification: QIAGEN's QIAamp&Prep:



Publication from Claas et al, 2021 from Leiden University Medical Center, NL. Journal of Clinical Virology, 135, 104720

QIAamp&prep was tested versus QIAsymphony extraction:

- > 12% of the sample inhibited (no internal control, even in repeated test)
- False negative on >80% of the weak samples (Ct>35)!
- Shift of +4 to +6 Ct values.

▶ SwiftX™ **Swabs** workflow using a dry swab is much more sensitive than direct amplification protocols based on liquid media.

SwiftX™ ***Swabs*** – Overview

- Simple procedure: 15min using only 1 pipette tip.
  High throughput, >200 samples/hour.

- As sensitive as QIAGEN made kits or other purification kits.
  validated for SARS-CoV-2 RNA

- Cost efficient extracts SARS-CoV-2 RNA from
  - Dry swabs (polyester, FLOQ, cotton swabs,…)
  - VTM swabs, VTM media
  - Saliva

- Available as: CE-IVD (SXS-50-IVD, SXS-200-IVD)
  RUO (SXS-50, SXS-200)

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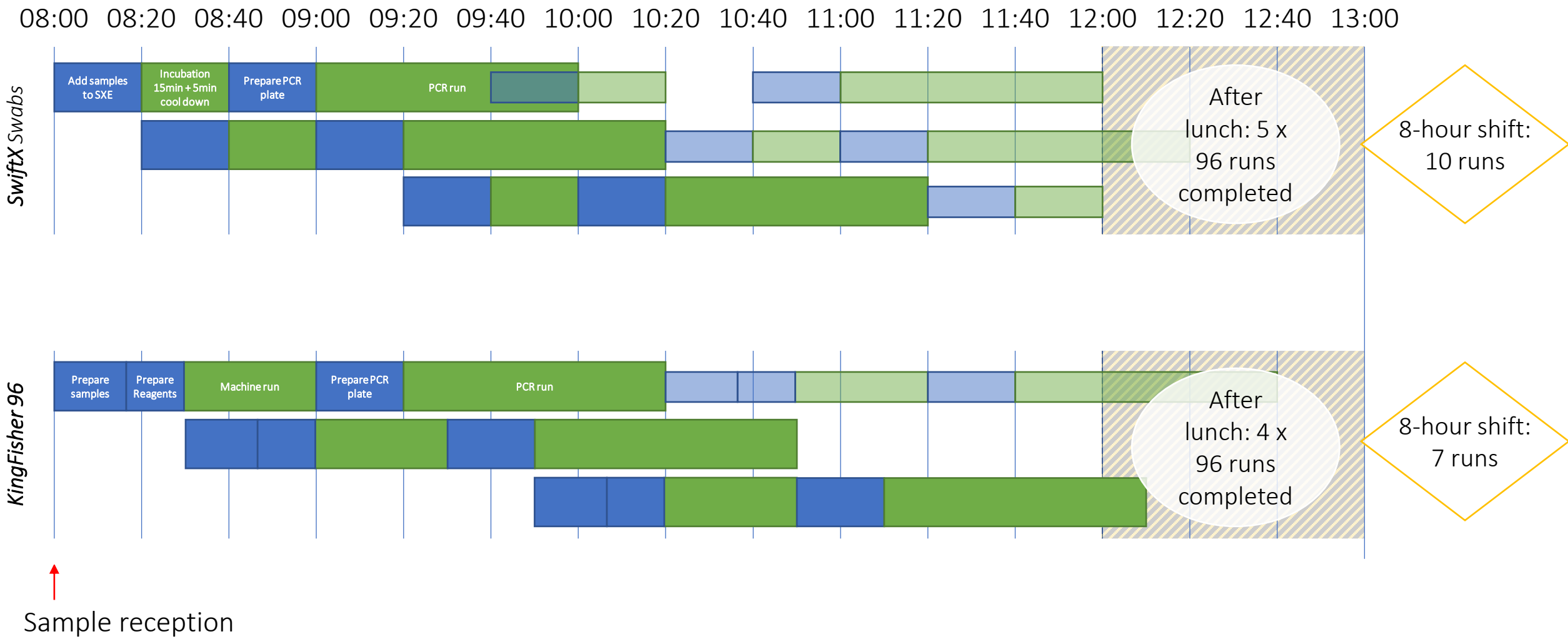
SwiftX™ ***Swabs*** – FAQ

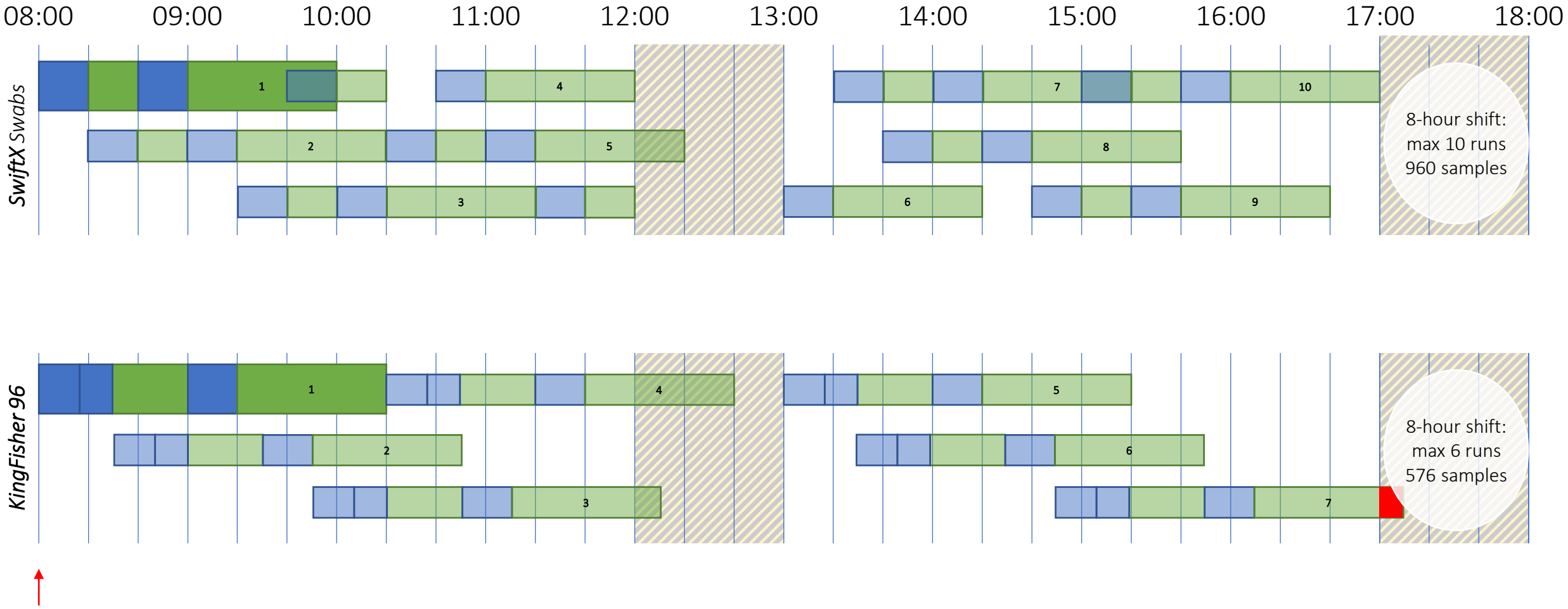
► Simulate a working day with SwiftX Swabs
Less hands-on time and higher throughput as with a KingFisher 96 instrument

► Technical sheet All frequent questions and point of attention at a glance

SwiftX™ ***Swabs*** – Hands on time and Machine time: Throughput with 1 technician & 3 cyclers

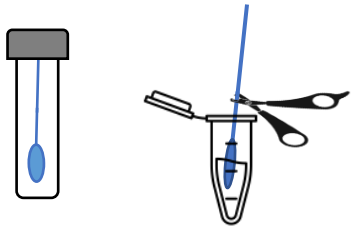


SwiftX™ ***Swabs*** – Hands on time and Machine time: Throughput with 1 technician & 3 cyclers



SwiftX™ ***Swabs*** – Technical training sheet

Dry Swabs:
Any kind of swab is fine: PE, FLOQ, Cotton, etc even wood sticks work fine

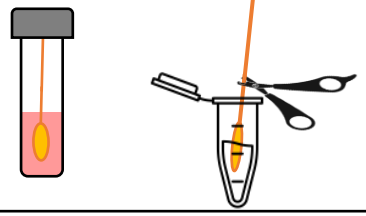


❶ Cut the swab in 500µL SXE*

After cutting, use a flame to destroy possible contamination

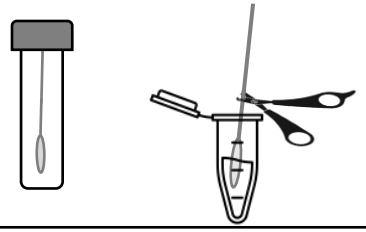
Swabs in Media:
Any kind of media that does not contain guanidine (VTM, UTM, etc)

Guanidine is a strong PCR inhibitor!



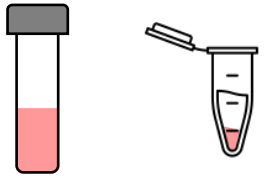
❶ Cut the swab in 500µL SXE*

Thin Swabs:
Usually dry (or in media)



❶ Cut the swab in 300µL SXE*

Media:
Any kind of media that does not contain guanidine (VTM, UTM, etc)



❶ Add 100µL of media to 400µL SXE*
(for 96 well plates: 40µL + 160µL)

Lower volumes would not guarantee to detect weak positive.

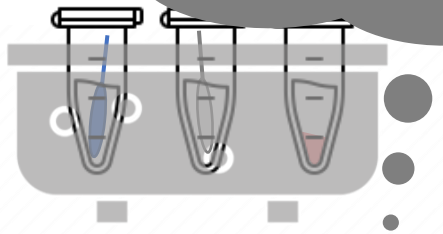
Saliva

See WHO recommendations, Saliva should be sampled after a period of 30 min without drinking, eating or smoking.

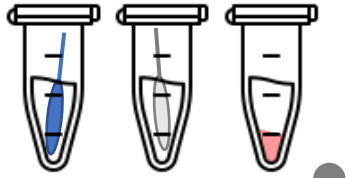
❶ Add 100µL of saliva to 100µL SXE*

SXE* : **Activated** SwiftX **Component E**

Waterbath are very good to heat quickly the samples, dry block too, when using an oven or any device, check in a first experiment with water how long it takes to heat up the samples to 90°C. Count 15 min from that moment.

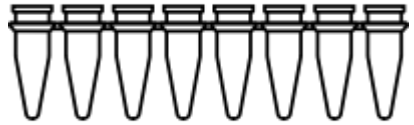


❷ incubated 15min at 90°C.



❸ Cool down to RT.

Eluates can be kept at least 2 days in the fridge (2-8°C) or longer in the freezer (-20°C or -80°C)



❹ Start your PCR
(compatible with any PCR kit)

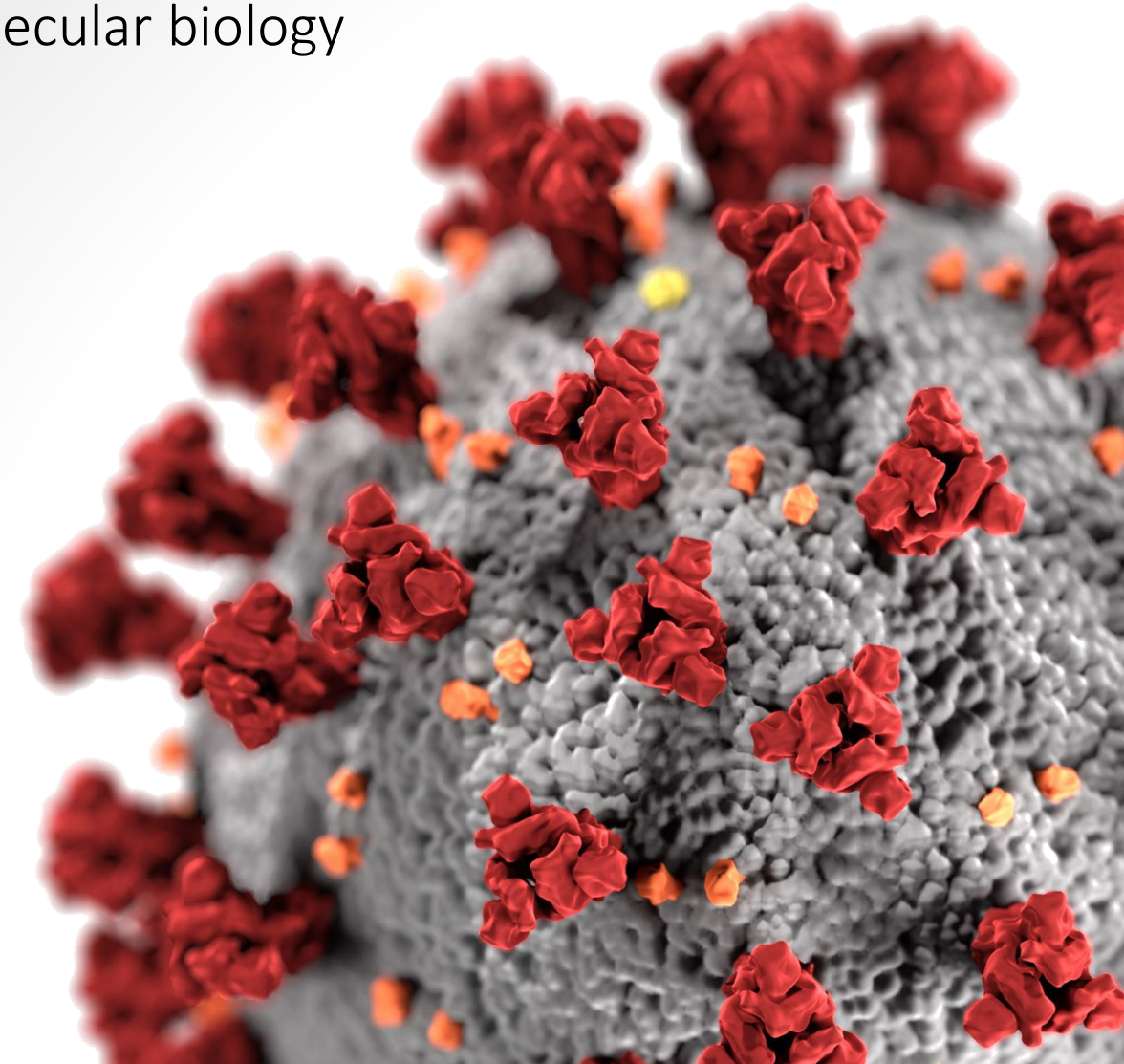
All RT-qPCR test kits we tested so far, but we are confident that it works with all RT-qPCR

SwiftX™

Family of fast sample preparation solutions for molecular biology

www.xpedite-dx.com

info@xpedite-dx.com



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