

SALIVA COLLECTION SYSTEM



➤ in saliva veritas - a new system

- GBO **S**aliva **C**ollection **S**ystem
- GBO **S**aliva **Q**uantification **K**it



Saliva Collection System

➤ Advantages of the **SCS-SQK** system

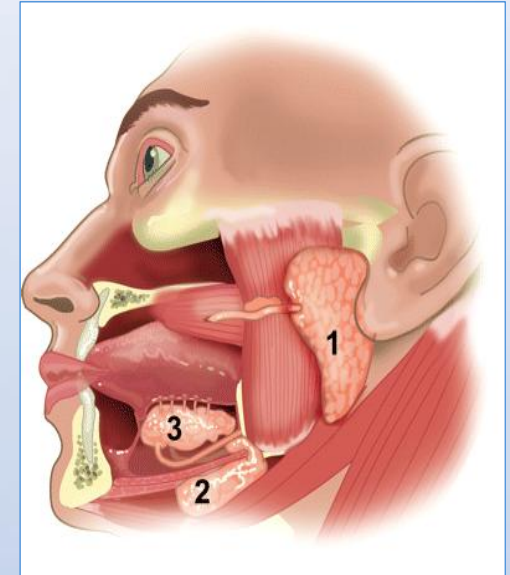
➤ Fields of **SCS-SQK** applications



Saliva Quantification Kit

➤ The anatomical location of salivary glands:

- 1...Glandula parotis ~20 %
- 2...Glandula submandibularis ~ 70 %
- 3...Glandula sublingualis ~ 5 %
- 4...Glandula labialis ~ 5 %



➤ Types of saliva:

Parotid saliva: low viscosity and elasticity (thin, not ropy)

Submandibular saliva: clear (clear, phlegm-like)

Mucous: thick, sticky, very ropy

Oral Fluid: low viscosity and low elasticity (slightly ropy, fairly low viscosity)

Oral Fluid

pH between 5,8 and 7,6

DNA, RNA, proteins, pathogenes, lipids and
low-molecular components

= ultrafiltrate of blood

The transfer of analytes from blood to saliva can happen:

Passive diffusion
through cell membranes
(liposoluble substances
e.g. drugs or steroids)

Active transportation
(proteins like slgA)

Ultrafiltration
(small polar molecules
e.g. creatinine)

The first system on a liquid basis:



Rinsing Solution



Saliva Extraction Solution



Saliva Collection Beaker



Saliva Transfer Tubes



0. Cleaning of oral cavity:

Optional rinse with **Rinsing Solution N 0** (colourless liquid) is spit out to prevent contamination by food leftovers.

1. Oral fluid collection:

Rinse oral cavity **2 min** with **Saliva Extraction Solution N 1** (yellow liquid: citrate buffer and yellow food dye)

The yellow colouration is used for the calculation of the saliva content.



2. Saliva Collection Beaker

Unscrew **Saliva Collection Beaker N 2** and spit in entire contents of mouth.

3. Transfer

Screw lid gently back onto beaker 2, remove safety sticker and transfer liquid into **Saliva Transfer Tube N 3**: take tube 3 and push down onto the opening. Tube will fill by itself. Container stabilizer facilitates storage.



Centrifugation:

Saliva Transfer Tube containing saliva samples should be centrifuged for **10 min** at **2200g**.

The clear supernatant or pellet will be analysed.

Storage of samples:

+20 to +25 C	storage 1 day - 20 days
+4 C	storage 1 - 3 weeks
-20 C	storage for months

Saliva Quantifikation Kit

Determination of the saliva content in the collected sample

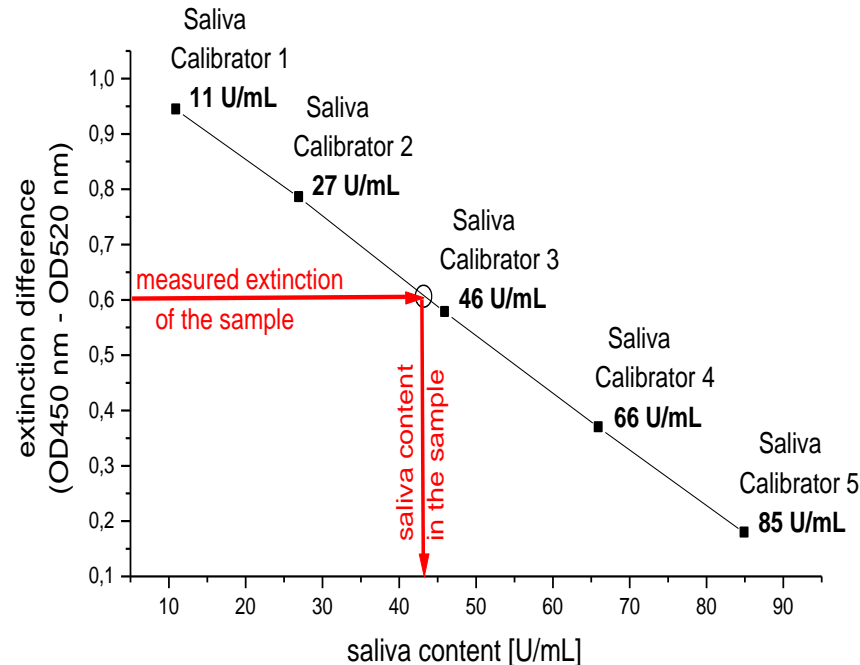


contains **5 Calibrators**

with defined saliva content: 11, 27, 46, 66 und 85 U/mL

correspond to 11 – 85 volume percent of saliva

and **2 Controls**: 30 U/mL and 70 U/mL



The yellow food dye tartazin which is part of calibrators, controls and collected samples enables to determine the content **photometrically**.

By plotting the measured extinction differences against the calibrator units, a calibration line is given.

Using the calibration line, the saliva content (U/ml) in the sample is calculated using the linear regression formula.

Calibration and samples

$$\text{Extinction cal} = \text{Ex 450 nm} - \text{Ex 520 nm}$$



Tube N 1 Extraction solution

- yellow dye enables saliva quantification = internal standard
- No absorption
- Collection from the whole mouth cavity
- No problem with dry mouth
- Collection under surveillance

Saliva Collection Beaker N°2

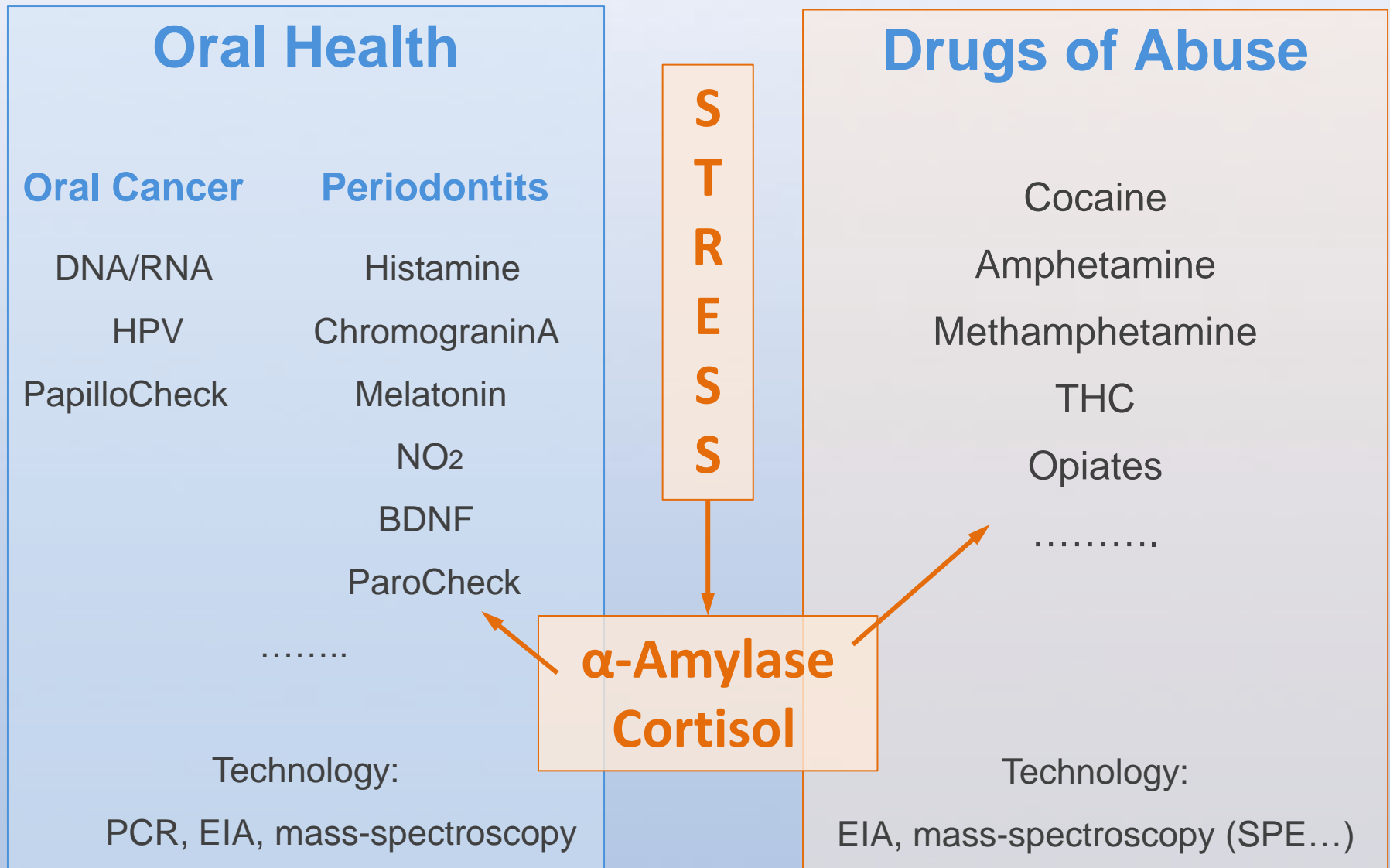
- Whole rinsing sample can be collected



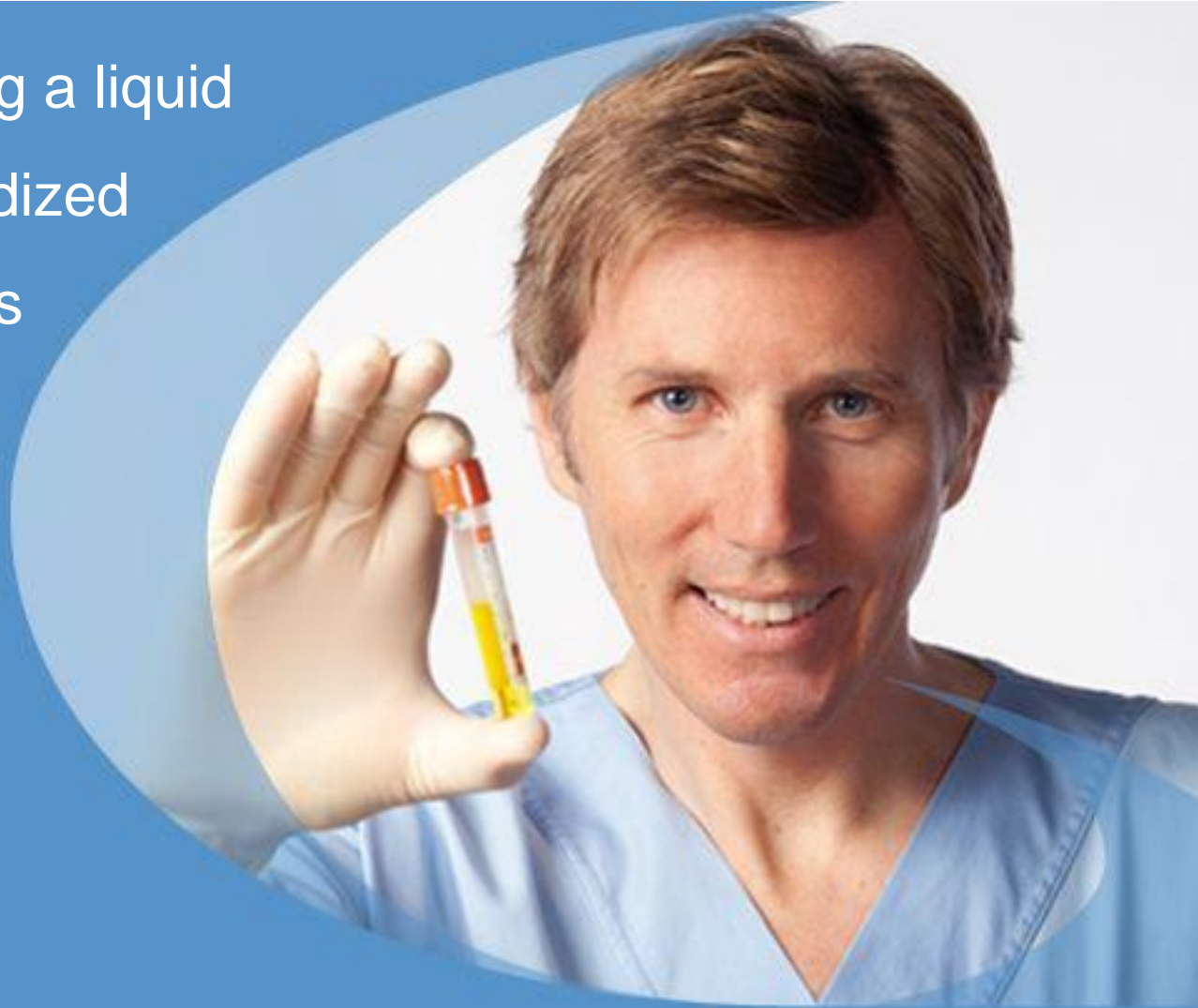
Tube N°3 Saliva Transfer Tubes

- Tamper-evident transfer tubes with sleeves
- Damaged sleeves indicate unauthorised access
- Tube-labels for data
- Fillvolume easy to read
- Simple splitting and sample duplication
- Dilution factor is exact and donor specific determinable





Saliva collection using a liquid matrix under standardized conditions guarantees a standardized saliva preanalytic for the first time.



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