SALIVA COLLECTION SYSTEM
in saliva veritas

in saliva veritas - a new system

- GBO Saliva Collection System
- GBO Saliva Quantification Kit

Advantages of the SCS-SQK system

Fields of SCS-SQK applications
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)
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**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 sIgA)
- Ultrafiltration (small polar molecules e.g. creatinine)
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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 and 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

Extinction cal = Ex 450 nm – 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
Oral Health

Oral Cancer
- DNA/RNA
- HPV
- PapilloCheck

Periodontitis
- Histamine
- ChromograninA
- Melatonin
- NO2
- BDNF
- ParoCheck

Technology: PCR, EIA, mass-spectroscopy

α-Amylase

Drugs of Abuse

Cocaine
Amphetamine
Methamphetamine
THC
Opiates

Technology: EIA, mass-spectroscopy (SPE...)

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