

# Sample pretreatment for COVID 19

International Molecular Diagnosis TS Team

# Sputum pretreatment using EZ solution

1. Collected sample volume : > **1ml**
2. Storage condition and period (before pretreated) :  
Refrigerate at 4°C up to 7 days.  
For longer, store into a freezer.  
※ Do not store the sample after the pretreatment.
3. Required reagent : **Bioneer EZ solution (K-4173)** (Storage condition : < -20°C)
4. Procedure
  - ① Add the same amount of EZ solution to sputum into the sample collection container. (1:1 ratio)
  - ② Mix the solution shaking upside down for 1 min.  
For better mixing, vortex mixer can be used.
  - ③ Incubate at room temperature (25°C) for 10~15 min.
  - ④ Check the viscosity of the sample.
  - ⑤ If the sputum sample is still viscous, repeat ① ~ ③.

# Swab sample pretreatment

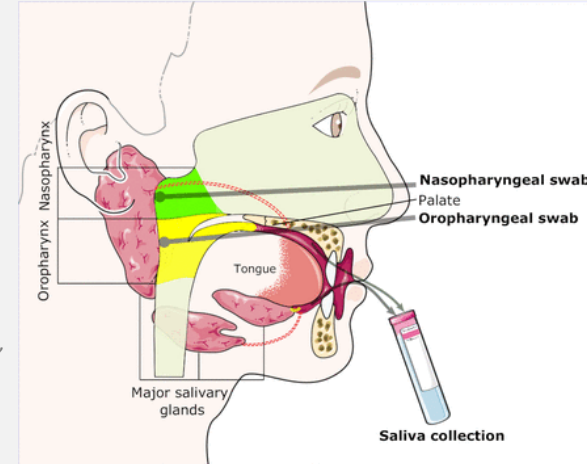
1. Sample unit : 1 swab or 2 swabs
2. Sample collection method :
  - a. Nasopharyngeal swab
  - b. Oropharyngeal swab
3. Storage condition and period :

Refrigerate at 4°C up to 3 days.

For longer period of storage, sample should be stored below -70°C in aliquots to avoid repeated freeze/thaw cycles.

4. Procedure (If the swab sample is viscous, perform the pretreatment procedure. Otherwise, you don't have to.)
  - ① Add the same amount of resuspension buffer(RS buffer), 1XPBS or normal saline as the collected sample into the transport medium.
  - ② Transfer 500ul into the 1.5ml microcentrifuge tube and perform the centrifugation (2,500g, 6,000rpm, 5s) for spin-down.
  - ③ Use the supernatant for sample.

Sapkota D, Søland TM, Galtung HK, *et al*,  
COVID-19 salivary signature: diagnostic  
and research opportunities, *Journal of  
Clinical Pathology* 2021;**74**:344-349.



# Saliva sample collection



## 1. Saliva sample collection guidelines

- ① **Don't eat, drink, smoke, or chew gum or tobacco for 30 minutes** before providing your saliva sample.
- ② Rinsing mouth with water to remove food residue.  
※ Waiting **at least 10 minutes** to avoid sample dilution before collecting saliva.
- ③ Saliva samples visibly contaminated with blood should be discarded and recollected.

## 2. Preservation :

Refrigerate at 4°C up to 3 days.

For longer period of storage, freeze samples at or below -20°C immediately after collection.

(If freezing is not possible, refrigerate immediately at 4°C for no longer than 2 hours before freezing to minimize degradation and prevent bacterial growth.)

# Saliva sample collection

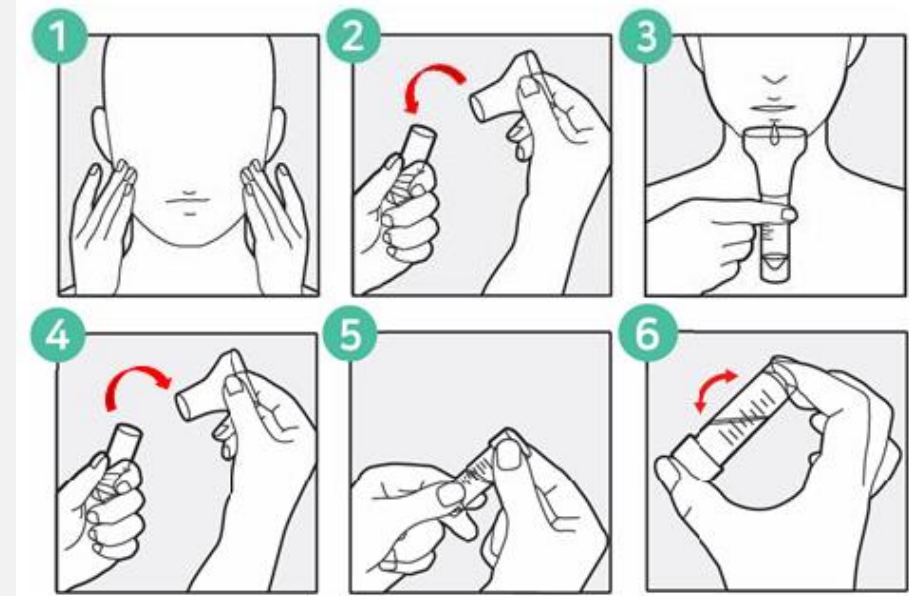


3. Required material : Saliva Collection Kit (K-4172)

4. Procedure

- ① Massage the jaw joint before collecting saliva to stimulate the salivary glands.
- ② Remove the lid from the saliva collection tube and fix the funnel.
- ③ Collect the pure saliva up to the red arrow line. Be careful not to include the phlegm or foam.
- ④ Rotate the funnel to remove it from saliva collection tube.
- ⑤ Completely seal the tube using the lid.
- ⑥ Shake the saliva collection tube more than 5 times to mix the saliva preservation buffer and saliva well.

※ You can immediately use the sample without special pretreatment.



**THANK YOU**