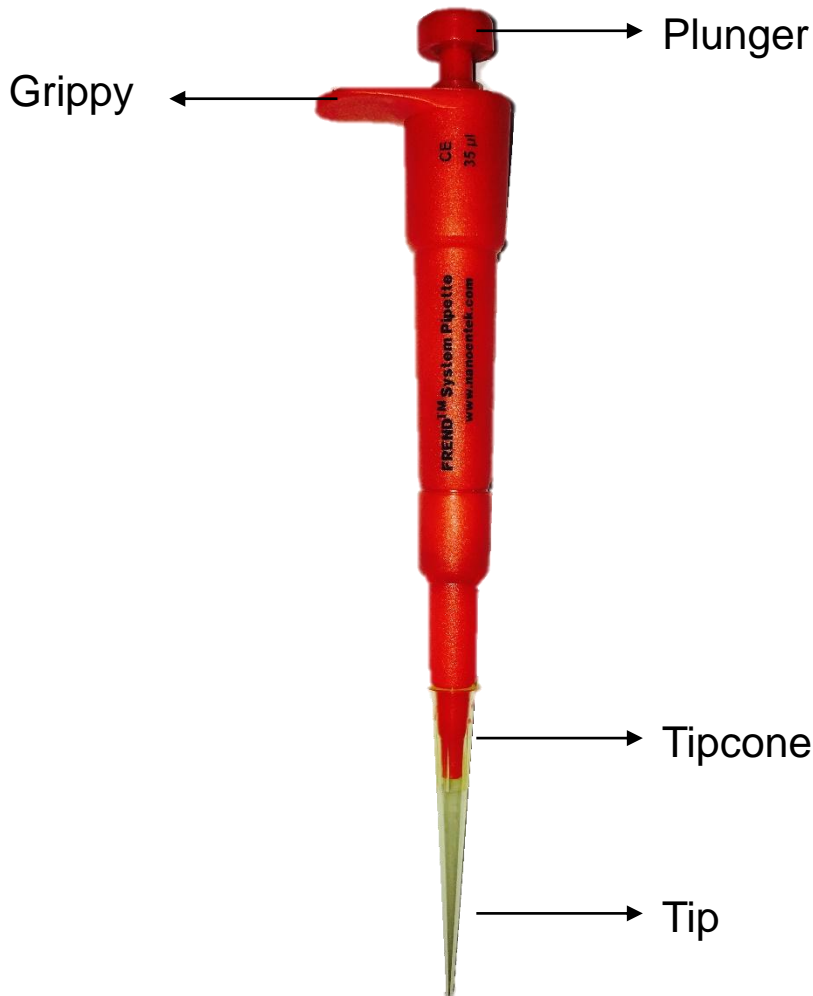


Quick Operation Manual



FREND mini-pipette



General Description

This fixed-volume micropipette is a medical device for dispensing fixed volume of liquid.

Get Familiar FRENTM mini-pipette

General Setting and Operation

- ✓ Put a compatible tip to the 'tip cone'.
- ✓ The pipette is now ready for pipetting.
- ✓ It is highly recommended to understand and practice the 'plunger' operation which has two stops.
- ✓ For the first stop operation, depress the 'plunger' gently until it stops by itself (never depress the 'plunger' with jerk). Give a pause at this stage and then depress the 'plunger' further down applying little force to achieve the second stop.

***Tips:** Press plunger slowly. You may feel the first stop better. Continuous practice will improve your pipetting skill. You may slow down a speed of pipetting for better accuracy.

Ready Position



First Stop



Second Stop



Reverse Pipetting Technique

1. Depress the 'plunger' all the way to the second stop, dip the tip in the solution.
2. Release the 'plunger' slowly to all the way up.
3. Depress the 'plunger' to the first stop. Required amount of liquid is dispensed.
4. Discard the liquid remaining in the tip.



Second Stage



Ready Position



First Stage



Ready Position

Release sample from pipette to tube

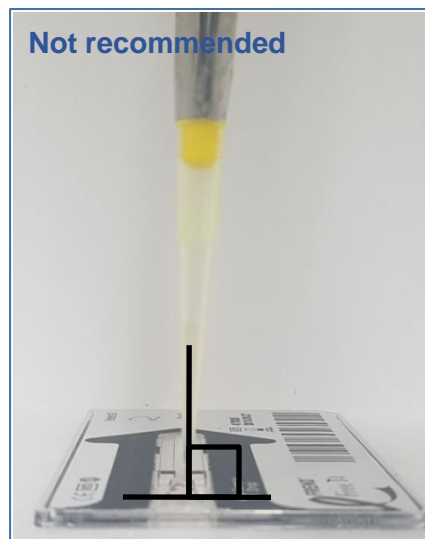
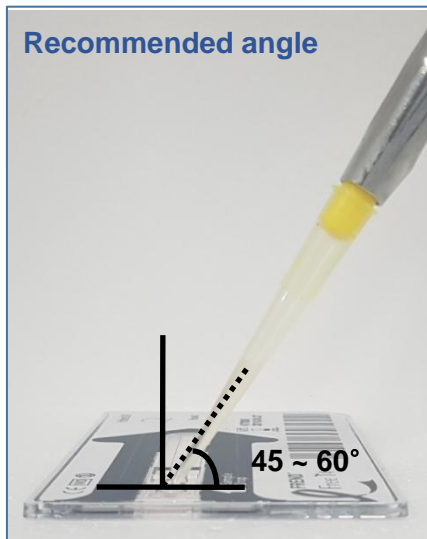
1. When releasing all of sample from pipette, end of tip touches on the tube inside wall.



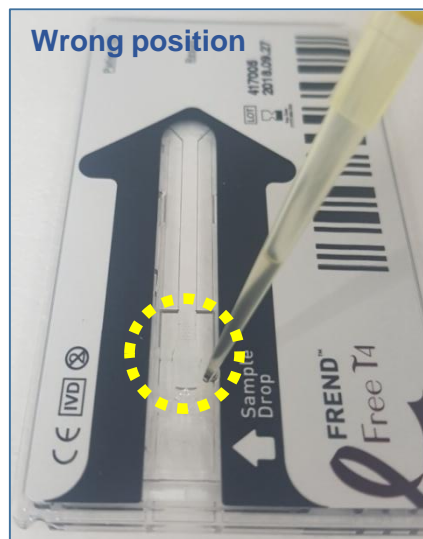
2. **Before releasing your thumb from the plunger, remove pipette and tip from the tube**

Sample drops on Cartridge

1. Recommended Position of Pipette



2. Find right inlet for sample loading.



Preparations

Free T4

35uL X 2



From Sample

1. Depress the 'plunger' to the second stop, dip the tip in the sample.
2. Release the plunger all the way up
3. Gently depress the plunger to the first stop into the pretreatment tube.
4. Repeat 1 more time

Testosterone

35uL X 2



From Sample

1. Depress the 'plunger' to the second stop, dip the tip in the sample.
2. Release the plunger all the way up
3. Gently depress the plunger to the first stop into the pretreatment tube.
4. Repeat 1 more time

Vitamin D

35uL

35uL X 2



From Sample

1. Depress the 'plunger' to the second stop, dip the tip in the sample.
2. Release the plunger all the way up
3. Gently depress the plunger to the first stop into the dilution tube.
4. **Discard the tip.**

From Dilution tube (with a new tip)

1. Depress the 'plunger' to the second stop, dip the tip in the dilution tube.
2. Release the plunger all the way up
3. Gently depress the plunger to the first stop into the pretreatment tube.
4. Repeat 1 more time

1 Turn on the FREND Heating block



2 Select 「HEATING TASK」 'FreeT4/Testosterone' with button to heat up



3 Transfer **70uL (35uL, twice)** of specimen to **Pretreatment tube**




4 Lay it on its side for **30 seconds**
* Use Heating Block incubation button as a timer



5 Firmly Thump/Flick the pretreatment tube to ensure mixing using index finger or thumb



 Move downward with a snap so the sample will collect at the bottom of the tube.

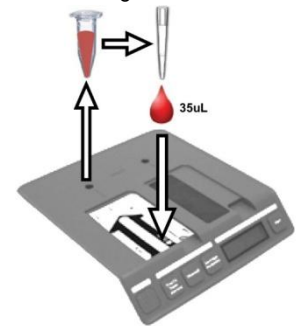
6 Place cartridge on the Heating Block and insert Pretreatment tube into the hole in the Heating Block



7 Press "Start" for **5 min.** incubation



8 After 5 minutes, **take out the Pretreatment tube**, and transfer **35uL of mixture** on the Heating Block.



9 Press **Incubation button** for next 30 seconds.



10 Take off the cartridge from the Heating Block and then insert the cartridge to FREND system for processing



1 Turn on the FREND AP.



2 Press "Type II" for Testosterone



3 Transfer sample to the Pretreatment tube

35uL X 2



1. Depress the 'plunger' to the second stop, dip the tip into the sample.
2. Release the plunger all the way up.
3. Gently depress the plunger to the first stop into the pretreatment tube.
4. **Before releasing your thumb from the plunger, remove pipette and tip from the tube**
5. Repeat 1 more time



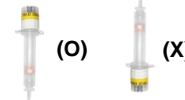
make sure there is **no remaining sample or droplet outside of the tip.**



Before use, tap the pretreatment tube few times to confirm a magnet is inside and freely rotate.



Make sure the end of the tip touches the wall inside of the pretreatment tube.



Once sample mixture is added in the pretreatment tube, **Do not invert the tube.**

4 Press "Next" (→) button and place a cartridge.



5 Press "NEXT" (→) button again. Cartridge tray is in-position and pretreatment tube tray automatically comes out.



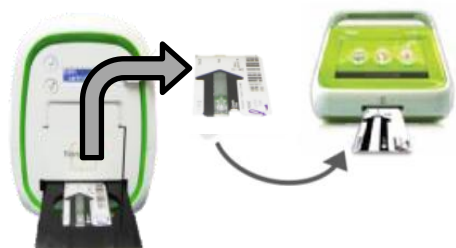
6 Insert the pretreatment tube in the tube hole. Until red light on.



7 Press "NEXT" (→) button to get the pretreatment tube tray in-position. Incubation will start and display shows remaining time.



8 Take off the cartridge to analyze with FREND system. Press "NEXT" (→) button to finish AP.



1 Turn on the FREND AP.



2 Press "Type I" for Vitamin D



3 Sample dilution



1. Depress the 'plunger' to the second stop, dip the tip into the sample.
2. Release the plunger all the way up.
3. Gently depress the plunger to the first stop into the dilution tube.
4. **Before releasing your thumb from the plunger, remove pipette and tip from the tube**
5. **Discard the tip** and close the lid



At step 3-3, make sure the end of the tip touches the wall inside of dilution tube.

4 Mixing

Shake the tube up and down vigorously and count 60 to make sure it is well-mixed.



5 Press "Next" (→) button and place a cartridge.



6 Press "NEXT" (→) button again. Cartridge tray is in-position and pretreatment tube tray automatically comes out.



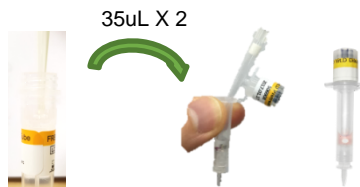
7 Transfer sample mixture to the Pretreatment tube.

(Start with a new tip)

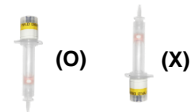
1. Depress the 'plunger' to the second stop, dip the tip in the dilution tube.
2. Release the plunger all the way up
3. Gently depress the plunger to the first stop into the pretreatment tube.
4. Repeat 1 more time



Before use, tap the pretreatment tube few times to confirm a magnet is inside and freely rotate.



Make sure the end of the tip touches the wall inside of the pretreatment tube.



Caution :

Once sample mixture is added in the pretreatment tube, **Do not invert the tube.**

8 Insert the pretreatment tube in the tube hole. Until red light on.



9 Press "NEXT" (→) button to get the pretreatment tube tray in-position. Incubation will start and display shows remaining time.



10 Take off the cartridge to analyze with FREND system. Press "NEXT" (→) button to finish AP.

