



# Pipetting Techniques

## **Best pipetting practice**

**1) Correct pipette/tip combination** Reduce errors by choosing a pipette/tip combination with the smallest possible air cushion.



#### 2) Correct immersion depth

- > Immerse as little as possible
- $\rightarrow$  preventing liquid transfer on the tip's outside
- > Immerse deeply enough to avoid uptake of air



**3) Vertical pipette posture for liquid uptake** The hydrostratic pressure changes with the holding angle of the pipette.





1,000–10,000	3–6

**4) Prewetting = Saturating of air cushion** Prewet tip at least three times to equilibrate air cushion to liquid.

### 5) Correct liquid discharge

- > Discharge liquid by touching the wall of the target vessel → adhesion force of liquid
- > Volumes below 10  $\mu\text{L}:$  discharge directly into the liquid

### **6)** Slow and continuous working pace To ensure precise and accurate pipetting results



Transfer	Forward pipetting	
Liquid uptake	<ol> <li>Press operating button down to 1st stop</li> <li>Let operating button move up completely</li> </ol>	
Liquid discharge	3. Press operating button via 1st stop down to 2nd stop	
Observation	4. No liquid is left in tip after action	



#### **Reverse** pipetting

1. Press operating button down to 2nd stop

2. Let operating button move up completely

3. Press operating button down to 1st stop

4. Liquid is left in tip after action (volume of blow-out)



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