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**Title:** Use of Instant pot electric pressure cooker for antigen retrieval

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SOP History		
Number	Date	Reason for Change
v1		Original

### 1.0 Purpose –

The purpose of this SOP is to outline the principles of the routine use and maintenance of instant pot electric pressure cooker for antigen retrieval of immunohistochemistry or immunofluorescence in Laboratory 248 at the St Andrews School of Medicine (SASoM).

### 2.0 Scope –

This SOP applies to routine use and maintenance of instant pot electric pressure cooker for antigen retrieval of immunohistochemistry or immunofluorescence within the SASoM.

### 3.0 Responsibilities –

It is the responsibility of all users of instant pot electric pressure cooker within the SASoM to comply with this SOP.

### 4.0 Procedure –

#### Safe Lid opening

1. Make sure the pressure cooking program is complete or press “Keep-Warm/Cancel” to terminate the program.
2. Release pressure by one of the following approaches.

### Quick Release:

1. Turn the pressure release handle to the “Venting” position to let out steam until the float valve drops down (Figure 1). **When releasing steam, always wear a pair of thermal gloves and a safety goggles.**

### Caution!

2. Please keep hands and face away from the opening on the top of the pressure release handle when using Quick Release. The escaping steam is hot and can cause scalds.
3. Never pull out the pressure release handle when it is letting out steam.
4. Please be aware that Quick Release is not suitable for large liquid volume. It may splatter out from the pressure release.

### Natural Release:

- Allow the cooker to cool down naturally until the float valve drops down. This may take 15 mins or even longer, depending on the amount of the liquid inside. After cooking is finished, the cooker will be in Keep Warm mode.

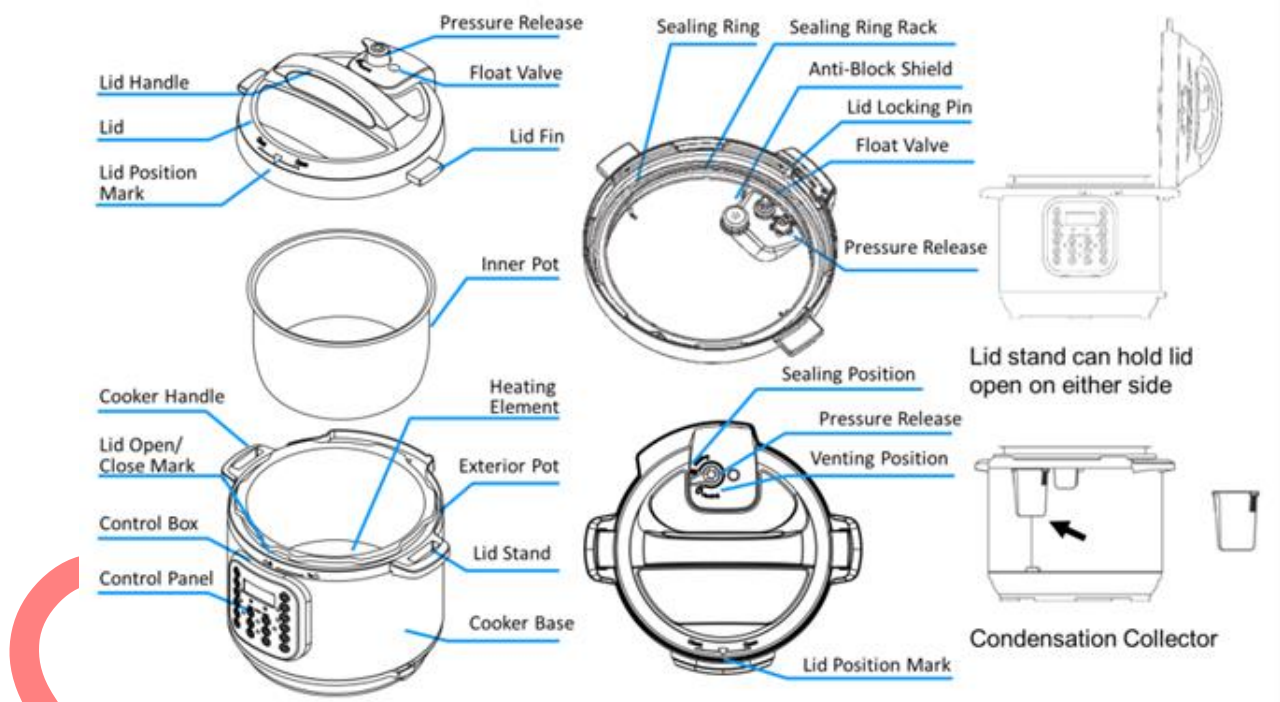


Figure 1. Instant pot electric pressure cooker introduction

3. Open the lid: Hold the lid handle, turn the lid counterclockwise to the open position, and lift the lid up to open. To avoid vacuum suction on the lid, turn the pressure release to “Venting” position to let in air when lifting the lid (Figure 2).
  - **Caution:** Do not open the lid until pressure inside the pot is completely released. As a safety feature, the lid is locked and won't open until the float valve drops down.
  - To avoid personal injuries, never attempt to force down the float valve to open the lid. **DO NOT open the lid until after the pressure is completely released naturally or manually by opening the pressure release valve.**

## Equipment Operation Procedure

Pick up the lid handle, rotate approximately 30 degrees counterclockwise until the ▼ mark on the lid is aligned with the ▲ “Open” mark on the cooker base.



Figure 2 Open the lid

**Operating Instant pot electric pressure cooker for antigen retrieval**

4. Make sure the pressure release handle and float valve are unobstructed and clean, and that the sealing ring is properly inserted.
5. Fill the inner pot with 1 litre of antigen retrieval solution (either Sodium Citrate buffer or Tris EDTA buffer).
6. Close the lid. Make sure that the pressure release handle is pointing to the “Sealing” mark on the lid (Figure 3).

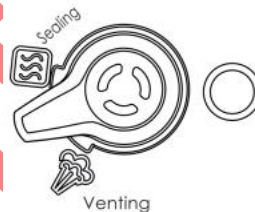


Figure 3 Pressure release handle

7. Press “Manual” button, and press the “+” or “-” to change the time to 1 min. In 10 seconds, the Instant pot will go into preheating cycle (display showing “On”) (Figure 4).

## Equipment Operation Procedure

**Figure 4 Control panel**

8. Once working pressure is reached, which may take a few minutes or up to 10-13mins, the countdown timer will begin. When the countdown is finished, the Instant pot will beep and automatically switch into the "Keep Warm" mode.
9. Turn the pressure release handle to the "Venting" position to let out steam until the float valve drops down (Figure 3). Open the lid with care. **When releasing steam, always wear a pair of thermal gloves and a safety goggles.**
10. Add the rehydrated slides into the inner pot and close the lid. Make sure that the pressure release handle is pointing to the "Sealing" mark on the lid (Figure 3).
11. Press "Manual" button, and press the "+" or "-" to change the time to 1 min. In 10 seconds, the Instant pot will go into preheating cycle (display showing "On").
12. Once working pressure is reached, which may take a few minutes or up to 10-13mins, the countdown timer will begin. When the countdown is finished, the Instant pot will beep and automatically switch into the "Keep Warm" mode.
13. Press "Cancel" and Turn the pressure release handle to the "Venting" position to let out steam until the float valve drops down (Figure 3). Open the lid with care.
14. Take the whole inner pot out and add the running tap water and cool the slides down.

**5.0 Personal protection –**

- Howie coat must be worn at all times.
- Safety glasses and thermal gloves must be worn when handling the heated pressure cooker lid and the inner pot.
- Gloves as specified in the appropriate COSHH RA

**6.0 Spillages –**

- Always clean up any spills immediately after use.
- Only you know what you have spilt and are aware of that chemical hazard.
- Mop up spills with paper towels. Wash the site of spillage with water and detergent.

**7. Maintenance –**

- Make sure the appliance has cooled down and is unplugged before cleaning.
- Rinse the inner pot with water and then wipe dry with a soft cloth or tissue.



Equipment Operation Procedure

- Wipe the lid, sealing ring, pressure release with a soft cloth or tissue. Do not take apart the pressure release handle assembly.
- Clean the cooker base with a clean damp cloth. **Do Not immerse the cooker into water. Do not use a wet cloth to clean the pot while the power cord is plugged into the power outlet.**

### 8.0 Training –

All users have to be trained before using the Instrument by a designated person.

### 9.0 Related documents –

9.1 Equipment manual

9.2 Risk assessments – RA/GEN/015, COSHH/008

Controlled



## 10.0 Approval and sign off –

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