ABSTRACT
Poly-Lysine Coverslip Preparation

This section describes the process of creating Poly-lysine-coated coverslips that are used for the tissue sections in the CODEX® experiment workflow.

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KEYWORDS
CODEX, HuBMAP, poly-lysine, coverslips, histology, staining, prep

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GUIDELINES
- Managers and supervisors - are responsible for making sure that technicians are properly trained and equipment and facility are maintained in good working order.
- Laboratory personnel - are responsible for reading and understanding this SOP and related documents and to perform these tasks in accordance with the SOPs.
MATERIALS TEXT

MATERIALS

- **WypAll™ L30 Multipurpose Wipers** Thermo
  
  Fisher Catalog #19168203

- **Parafilm Wrap PM996, 4 in. Wide, 125 ft./Roll** Thermo
  
  Fisher Catalog #CP0672040

- **Dumont Forceps (Cover Slip Forceps)** Fine Science
  
  Tools Catalog #11251-33

- **EMS Glass Cover Slips 22mm x 22mm** Electron Microscopy
  
  Sciences Catalog #72204-01

- **Poly-L-lysine 0.1% (w / v)** Sigma
  
  Aldrich Catalog #P8920

SAFETY WARNINGS

- Use physical safety precautions when working with sharps (disposable blades, coverslips, etc).

BEFORE STARTING

- Be sure to gather all the appropriate materials listed in this protocol before starting.

- You will need a sanitized or acid-washed beaker for this procedure.

1. Remove the EMS cover-slips from box.  

   1m

   CODEX requires use of these specific cover-slips for their diagnostic process.

2. Gently place the desired amount of cover-slips that you wish to coat in solution at the bottom of a sterilized glass beaker.  

   1m

3. Slowly swirl the beaker to spread the cover-slips around the base.  

   30s
4 Add 7 mL of poly-lysine solution above the cover-slips to ensure that all are fully covered.

7 mL Poly-Lysine

5 Cover the beaker with plastic wrap or parafilm, and secure tightly with a rubber band to prevent evaporation.

6 Cover-slips in poly-lysine solution for a minimum of 12 hours and up to one week at room temperature. 12h

7 After waiting the required incubation period, carefully remove the rubber band and parafilm from around the neck of the beaker.

8 Gradually pour the remaining poly-lysine solution into the proper waste container.

9 Fill the same beaker containing the cover-slips to half volume with double-distilled water (ddH2O) or purified water.

10 Swirl the contents to mix the solution.

11 Let the beaker and cover-slips sit for 30 seconds. To prevent removal of poly-lysine, do not soak in water for >1 minute during each washing step.

12 Slowly pour off the water into the sink. This completes Wash #1

13 go to step #9 and repeat steps 9-12 (Wash #2)

14 go to step #9 and repeat steps 9-12 (Wash #3)
15 go to step #9 and repeat steps 9-12 (Wash #4)

16 go to step #9 and repeat steps 9-12 (Wash #5)

17 go to step #9 and repeat steps 9-12 (Wash #6)

18 go to step #9 and repeat steps 9-12 (Wash #7)

19 After completing the 7 washes, place 2 Wypall towels or lint-free paper towels on the bench top.

20 Remove the cover-slips from the water, placing them on top of the first set of towels. Ensure the cover-slips are not overlapping to allow proper drying.

21 Using the specialty forceps indicated for use by CODEX, flip over each cover-slip onto the second clean towel to dry the reverse side.

22 Leave the cover-slips on the Wypall towel to dry.

23 When the cover-slips are dry, the Poly-Lysine-coated cover-slips can be stored in a sanitized petri dish or similarly covered container for up to 2 (two) months.
Sanitized Petri Dish containing the finished Poly-l-Lysine coated cover-slips for CODEX processing.