

Immunofluorescence-KRT14, SOX2 and MUC5B

Purpose: Immunofluorescence on slides of frozen sections of 4-month-old human lung from the HTC and UNC for KRT14, SOX2 and MUC5B with antigen retrieval.

Day 1

1. For Frozen tissue, rinse 2X in PBS, then 5 min in 4% PFA/PBS, then rinse 1X in PBS.
2. Paraffin sections are placed at 60°C for 2 hours to overnight to melt paraffin.
3. Paraffin sections are then placed in xylene 3X for 10 minutes each, followed by 3X in 100% ETOH for 3 minutes each, 95% ETOH for 3 minutes each, and 70% ETOH for 3 minutes each. Slides are then placed in 1X PBS for 5 minutes to completely rehydrate tissue.
4. Briefly equilibrate slides in Antigen Retrieval Buffer.
5. Antigen retrieval, pH 6.0 (times will vary according to microwave).
6. 10 mM sodium citrate, pH 6.0, and heat in a microwave at 96°C. *We usually do a series of three runs (6-7 minutes each run) to equal the time/temp because of evaporation (refill coplin jars with dH₂O).
7. Microwave according to instructions on microwave.
8. Cool on countertop, 15 min.
9. Rinse with dH₂O
10. 1X PBS, 5 min.
11. Block in 4% Goat serum/PBS-T, 2 hours at RT.
12. For mouse anti-KRT14 (AB7800, Abcam) dilute 1:100, For mouse anti-SOX2 (SC-365823, Santa Cruz, Lot# C0317) dilute 1:100, for rabbit anti-MUC5B (SC-20119, Lot # B1003 Santa Cruz) Dilute 1:100 in blocking buffer. Spin down in µfuge for 10 minutes and incubate on tissue overnight @ 4°C.

Day 2

1. Rinse slides in PBS-T 3X, 5 min.
2. Apply secondary antibody, Goat Alexa Fluor 488 anti-mouse IgG3 (A21151, Lot# 1563682, for anti-KRT14) at 1:200, Goat Alexa Fluor 568 anti-mouse IgG1 (A21124, Lot# 1600878, for anti-SOX2) at 1:200, Goat Alexa Fluor 633 anti-rabbit IgG (A21070, Lot # 1668691, anti-MUC5B) at 1:200, in blocking buffer. Spin down in µfuge for 10 min, apply to tissue and incubated at room temperature for 1 hour.
3. Rinse in PBS-T 5X
4. Dilute DAPI 1:2000 and apply to slides for 10 min.
5. Wash in PBS-T 3X, 5 min.
6. Rinse slides in 0.1M PB or TB, 3X, 5 min.
7. Add 1 drop of Prolong Gold anti-fade mounting medium (P36930).

8. Coverslip with Gold Seal Coverslip (Cat# 3422 Electron Microscopy Sciences, 22 X 22 mm).
9. Allow Prolong Gold to cure overnight at room temp in light sealed box.
10. Store in light-sealed box at 4°C.

Tissue Used:

LMH-16-D024-LLL-8B2.4

Gender: Male

Age: 4 Months

Appendix

Antigen Retrieval Solution

18ml Solution A- 0.1M Citric Acid (Sigma, C1909) pH 2.5

82ml Reagent B- 0.1M Sodium Citrate (Sigma, S4641) pH 8.2

1L dH₂O

pH 6.0