

Supplemental Table 1. Immunohistochemistry protocols for cellular markers in pig and human tissues.

| Marker | Primary Antibody | Antigen Retrieval | Secondary Reagents |
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| CD3 | Rabbit anti-CD3 polyclonal (Dako North America, Inc., Carpinteria, CA); Pig: 1:100/1hr; Human: 1:200/1hr | HIER, Citrate buffer pH 6.0, 110C for 15min; 20 min cool down | Dako EnVision+ System- HRP Labelled Polymer Anti-rabbit, 30 min (Dako North America, Inc., Carpinteria, CA) |
| CD79a | Mouse anti-CD79A (clone HM57) monoclonal, (LifeSpan BioSciences, Inc., Seattle, WA) 1:2000/1hr | HIER, 10mM Tris/EDTA buffer pH 9.0, 125C for 5min; 20 min cool down | Dako EnVision+ System- HRP Labelled Polymer Anti-mouse, 15 min (Dako North America, Inc., Carpinteria, CA) |
| BCL6 | Rabbit anti-Bcl-6 (clone EPR11410-43) monoclonal, (Abcam, Plc., Cambridge, MA) 1:2000/2hr | HIER, Citrate buffer pH 6.0, 110C for 15min; 20 min cool down | Dako EnVision+ System- HRP Labelled Polymer Anti-rabbit, 30 min (Dako North America, Inc., Carpinteria, CA) |

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| <p>IBA1</p> | <p>Rabbit anti-Iba1 polyclonal, (Wako Pure Chemical Industries, Ltd., Richmond, VA) 1:1000/1hr</p> | <p>HIER, Citrate buffer pH 6.0, 125C for 5min; 20 min cool down</p> | <p>Dako EnVision+ System- HRP Labelled Polymer Anti-rabbit, 30 min (Dako North America, Inc., Carpentaria, CA)</p> |
| <p>Myeloperoxidase</p> | <p>Rabbit anti-Myeloperoxidase polyclonal, (Dako North America, Inc., Carpentaria, CA) Pig: 1:500/1hr Human: 1:1000/1hr</p> | <p>Dako Proteinase K, 5 min (Dako North America, Inc., Carpentaria, CA)</p> | <p>Dako EnVision+ System- HRP Labelled Polymer Anti-rabbit, 30 min (Dako North America, Inc., Carpentaria, CA)</p> |
| <p>MUC5AC</p> | <p>Mouse anti-MUC5AC (clone 45M1) monoclonal, (Novus Biologicals, LLC, Littleton, CO) 1:75/30min</p> | <p>HIER, 1000W Microwave, Citrate Buffer pH 6.0, 4min x 3min, 20 min cool down</p> | <p>Dako EnVision+ System- HRP Labelled Polymer Anti-mouse, 15 min (Dako North America, Inc., Carpentaria, CA)</p> |
| <p>MUC5B</p> | <p><u>Rabbit anti-MUC5B polyclonal, (LifeSpan BioSciences, Inc., Seattle,</u></p> | <p><u>HIER, Citrate buffer pH 6.0, 110C for 15min; 20 min cool down</u>Pig: HIER</p> | <p><u>Step 1: Biotinylated anti-Rabbit IgG (H+L) (Vector Laboratories, Inc., Burlingame, CA) in Dako</u></p> |

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| | <p><u>WA) in Dako Antibody Diluent</u> <u>(Dako North America, Inc.,</u> <u>Carpentaria, CA):</u> <u>1:60,000/30min</u>Rabbit anti- MUC5B polyclonal, (Prestige Antibodies, Sigma Aldrich Co. LLC, St. Louis, MO) Pig: 1:50/2hr Human: 1:60,000/30min</p> | <p>Black & Decker Steamer, Citrate buffer pH 6.0, preheat 40 min, incubate 20 min, 20 min cool down Human: HIER, Citrate buffer pH 6.0, 110C for 15 min; 20 min cool down</p> | <p><u>Wash Buffer (Dako North</u> <u>America, Inc., Carpentaria, CA):</u> <u>1:500, 30min</u> <u>Step 2: Vectastain ABC Kit</u> <u>(Vector Laboratories, Inc.,</u> <u>Burlingame, CA), 30min</u>Dako EnVision+ System HRP Labelled Polymer Anti-rabbit, 30 min (Dako North America, Inc., Carpentaria, CA)</p> |
| Lactoferrin | <p>Rabbit anti-Lactoferrin polyclonal (Immunology Consultants Laboratory, Inc., Portland, OR) Pig: 1:750/1hr</p> | <p>HIER, Citrate buffer pH 6.0, 110C for 15 min; 20 min cool down</p> | <p>Dako EnVision+ System- HRP Labelled Polymer Anti-rabbit, 30 min (Dako North America, Inc., Carpentaria, CA)</p> |

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| | Human: 1:1000/1hr | | |
| <i>beta</i> -Tubulin III | Rabbit anti-beta III Tubulin polyclonal, (Abcam, Plc., Cambridge, MA) 1:500/1.5hr/37C oven | HIER, Citrate buffer pH 6.0, 110C for 15 min; 20 min cool down | Dako EnVision+ System- HRP Labelled Polymer Anti-rabbit, 30 min (Dako North America, Inc., Carpinteria, CA) |
| CFTR | Mouse anti-CFTR monoclonal, (Primary Ab #769 was generously supplied by Dr. John Riordan, Ph.D., UNC –Chapel Hill and the CFF Therapeutics. UNC, Chapel Hill, NC) 1:1200/1hr | HIER, Citrate buffer pH 6.0, 110C for 15 min; 20 min cool down | Pig: Biocare Mouse-on-Farma HRP Polymer, 30min (Biocare Medical, Concord, CA) Human: Dako EnVision+ System- HRP Labelled Polymer Anti-mouse, 30 min (Dako North America, Inc., Carpinteria, CA) |
| <i>alpha</i> -Smooth Muscle Actin | Mouse anti-Actin, alpha-Smooth Muscle (clone 1A4) monoclonal (Sigma-Aldrich | None | Dako EnVision+ System- HRP Labelled Polymer Anti-mouse, 12 min (Dako North America, Inc., |

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| | Co. LLC, St. Louis, MO) 1:2000/15min | | Carpentaria, CA) |
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HIER – Heat Induced Epitope Retrieval (unless otherwise specified - Decloaking Chamber Plus, Biocare Medical, Concord, CA USA)