

Table S1: Summary of immunohistochemistry protocols

Protocol	Heat-induced antigen retrieval	Antibodies	Revelation
HEMO	ER2 buffer (pH9) 20 min, 100°C	Mouse mAb 2F7 [31] 1 h at RT	Bond Polymer Refine Detection kit (Leica Biosystems)
HEMO/β-catenin	ER2 buffer (pH9) 20 min, 100°C	Mouse mAb 2F7 Mouse mAb anti- β -catenin (Dako, 1:800) 1 h each at RT	Bond Polymer Refine Red Detection (Leica Biosystems) + HIGHDEF Green AP chromogen/substrate (Enzo Lifesciences) for β -catenin and Red chromogen (Leica Biosystems) for HEMO
HEMO/p63	CC1 buffer (pH8) 76 min at 95°C	Mouse mAb anti-p63 (Dako, 1:20) 20 min, 36°C Mouse mAb anti-HEMO (2F7) 1 h RT	UltraView universal DAB detection kit (Roche) for HEMO and UltraView universal AP red (Roche) detection kit for p63
CK5/6	CC1 buffer (pH8) 36 min at 95°C	Mouse mAb anti-cytokeratins 5/6 (Dako, clone DC D5/16 B4, 1:40) 32 min at 36°C	UltraView universal DAB detection kit (Roche)
CDX2	CC2 buffer (pH6) 44 min at 95°C	Rabbit mAb anti-CDX2 (Zytomed, clone EPR2764Y, 1:200) 1 h at 36°C	UltraView universal DAB detection kit (Roche)