**Table, Supplemental Digital Content 1- Antibodies used for immunohistochemistry**. List of antibodies, their specificities and combinations in multiple stainings.

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| **Antibody****(Clone; Source)** | **Antigen retrival** | **Antibody dilution** | **Double/triple stain combination** | **Source** |
| CD2(AB75; Ms) | MwE (5c) | 1:50 | (A) | Leica Biosystems, Milan, Italy, EU |
| CD3(LN10; Ms) | MwE (3c) | 1:50 |  | Leica Biosystems, Milan, Italy, EU |
| CD4 (4B12) | MwE (3c) | 1:50 |  | Leica Biosystems, Milan, Italy, EU |
| CD8(C8/144B; Ms) | MwE (3c) | 1:80 | (B) | Agilent, Santa Clara, CA, US |
| CD56 (123C3.D5) | Mwe (3c) | 1:50 |  | Diagnostic BioSystems, Pleasanton, CA, US |
| CD68(PG-M1; Ms) | MwE (3c) | 1:200 | (C) | Agilent, Santa Clara, CA, US |
| CD123 (9F5) | MwE (3c) | 1:50 |  | BD Bioscience, Franklin Lakes, NJ,U.S. |
| CD303/BDCA2(124B3-13; Ms) | MwE (5c) | 1:100 | (D) | Dendritics, Lyon, France, EU |
| E-Cadherin (36B5; Ms) | Bond-III Leica autostainer | 1:1 | (A) (C) (D) | Roche, Basel, Switzerland |
| E2-2/TCF4(NCI-R159-6; Rb) | MwC (1c) | 1:500 | (A) (D) (E) (G) (H) (I) | Abcam, Cambridge, UK |
| ISG15 (polyclonal; Rb) | MwE (5c) | 1:500 | (E) | Cell Signaling Technology, Danver, MA, US |
| Ki67(30-9; Ms) | MwE (3c) | 1:1 | (B) | Roche, Basel, Switzerland |
| MAFB(polyclonal; Rb) | WbE | 1:500 | (F) | Sigma-Aldrich, Saint-Louis, MO, US |
| MX1 (polyclonal; Rb) | MwE (3c) | 1:500 | (G) | Abcam, Cambridge, UK |
| phosho STAT1 (Tyr701) (58D6; Rb) | WbE | 1:500 | (H) | Cell Signaling Technology |
| PD-L1/CD274(22C3; Ms) | BenchMark Ultra autostainer | 1:40 | (F) (I) | Agilent, Santa Clara, CA, US |
| TCL-1 (1-21) | WbE | 1:500 |  | Santa Cruz Biotechnology, Dallas, TX, US  |

*Legend: (1c)(3c)(5c) number of cycles at 750W 5’ each; MwC: microwave Citrate buffer pH6.0; MwE: microwave EDTA buffer pH8.0; Ms: Mouse, Rb: Rabbit; WbE: water bath EDTA buffer pH8.0 for 40’ at 98°C.*

*\*E-Cadherin staining has been developed on BOND-III (Leica), according to the manufacture procedure.*

*\*\*PD-L1/CD274 staining has been developed on BenchMark Ultra system (Roche), according to the manufacture procedure.*