**Supplementary Table 2: Immunohistochemical antibodies and protocols**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Antigen** | **Antibody type** | **Antibody Clone** | **Manufacturer** | **Catalog #** | **Antigen Retrieval** | **Primary Antibody Incubation Time** | **Equipment; Secondary** | **Dilution** | **Scoring** |
| **Synaptophysin** | Mouse monoclonal | Snp88 | BIOGENEX | MU363 UC | 32' CC1 | 20' | Ventana Ultra; OPTIVIEW | 1:2K | Cytoplasmic labeling |
| **Chromogranin A** | Mouse monoclonal | LK2H10 | VENTANA | 760-2519 | 8' CC1 | 12' | Ventana Ultra; OPTIVIEW | Prediluted | Cytoplasmic labeling |
| **CD56/NCAM** | Mouse monoclonal | MRQ-42 | VENTANA | 760-4596 | 32' CC1 | 28' | Ventana Ultra; OPTIVIEW | Prediluted | Cytoplasmic/membranous labeling |
| **ASCL1/MASH1** | Mouse monoclonal | 24B72D11.1 | BD Pharmingen | 554002 | 40’ ER2 | 30’ | Leica Bond-RX; BOND POLYMER REFINE | 7.5 ug/mL | Nuclear labeling |
| **Ki67/MIB1** | Mouse monoclonal | DAKO | DAKO | M7240 | 30' ER2 | 30' | Leica Bond-RX BOND POLYMER REFINE | 1:200 | Nuclear labeling. Average percentage of tumor nuclei staining across the entire tumor area available for evaluation was recorded. |
| **pRb** | Mouse monoclonal | 13A10 | Leica biosystems (NOVO-CASTRA) | NCL-L-RB-358 | 92' CC1 | 1 hr | Ventana Ultra; OPTIVIEW | 1:50 | Nuclear labeling. Loss defined as complete loss of nuclear staining relative to benign internal control cells (stroma, endothelium, lung epithelium). |
| **STK11** | Mouse monoclonal | Ley37D/G6 | Abcam | ab15095 | 30’; ER2 | 30’ | Leica Bond-RX; BOND POLYMER REFINE | 1:2500 | Loss defined as complete loss of cytoplasmic labeling. |
| **Napsin-A** | Mouse monoclonal | IP64 | LEICA | NCL-L-NAPSIN A | 18' CC1 | 8' | Ventana Ultra; OPTIVIEW | 1:200 | Cytoplasmic granular labeling |
| **p40** | Mouse monoclonal | BC28 | BIOCARE | AC13066C | 30 ER2 | 30' | Leica Bond-RX; BOND POLYMER REFINE | 1:250 | Nuclear labeling |