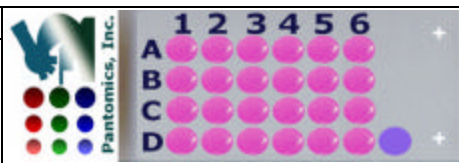


Cat No: **UNC241** – Universal IHC/ISH control tissue array

| Lot# | Cores | Size | Cut | Format | QA/QC |
|----------|-------|-------|-----|--------|------------------------------------|
| UNC24101 | 24 | 1.5mm | 4um | 4X6 | H&E, IHC anti-Vimentin/Cytokeratin |



Recommended applications: For Research use only. Designed for [universal IHC/ISH control](#) & antibody screening.

Description: Covers >90% of the [markers](#) currently used in pathology diagnostics, designed for universal IHC/ISH control & antibody/probe screening and optimization. Majority of the tissues were from surgical resection. Those highlighted by '*' were from autopsy. They were fixed in 10% neutral buffered formalin for 24 hours and processed using identical SOPs. Sections were picked onto Superfrost Plus or APES coated Superfrost slides. They all have a guaranteed six months' shelf-life at 4C from the date of shipment. Each slide has >95% tissue core retention.

| Array position | Sex(es) | Age(s) | Anatomic site | Histology | Stage (TNM) |
|----------------|---------|--------|---------------|--|-------------|
| A1,B1 | M | 9 | Tonsil | Reactive tonsil tissue in duplicates | - |
| A2,B2 | M | 51 | Colon | Normal colon in duplicates | - |
| A3,B3 | F | 19 | Thyroid | Normal thyroid gland in duplicates | - |
| A4,B4 | M | 73 | Prostate | Normal prostate tissue in duplicates | - |
| A5,B5 | F | 50 | Breast | Breast carcinoma (ER&HER2 positive), grade II~III, in duplicates | T4N3M1 |
| A6,B6 | M | 31 | Thymus | Thymoma, type B in duplicates | - |
| C1,D1 | M | 16 | Brain* | Normal brain cortex in duplicates | - |
| C2,D2 | F | 60 | Lung | Normal lung tissues in duplicates | - |
| C3,D3 | M | 59 | Liver | HBV associated liver cirrhosis in duplicates | - |
| C4,D4 | F | 38 | Uterus | Normal myometrium in duplicates | - |
| C5,D5 | - | - | Placenta | Normal placenta tissue in duplicates | - |
| C6,D6 | M | 32 | Scalp | Melanoma in duplicates | - |

Notes: Bake at 60C for 30 minutes before use.

Certified by: Langxing Pan, M.D., Ph.D.

| Immunoreactivities of UNC241 | |
|------------------------------|--|
| Markers | Positive tissue/cells in UNC241 |
| AACT | Tonsil, colon |
| Actin, smooth muscle | Myometrium; muscularis of colon |
| AE-1 | Colon |
| AE-3 | Prostate |
| Albumin | Liver |
| Androgen receptor | Prostate |
| Bax | Breast cancer |
| Bcl-2 | Tonsil lymphoid tissue |
| Bcl-6 | Tonsil germinal centers |
| Bcl-10 | Tonsil |
| BerEP4 | Colonic epithelium; thyroid follicular epithelium |
| Beta catenin | Bile ducts in the liver |
| Calretinin | Neurons and nerves in colon; mesothelial lining over liver or lung, if available |
| Carcinoembryonic antigen | Colonic mucosa |



Advancing Biomedical Science Through Tissue Arrays

| | |
|-------------------------------------|--|
| CD1a | Thymoma (lymphoid cells) |
| CD3 | Tonsil lymphoid tissue |
| CD4 | Tonsil lymphoid tissue |
| CD5 | Tonsil lymphoid tissue |
| CD8 | Tonsil lymphoid tissue |
| CD10 | Tonsil germinal centers |
| CD13 | Brain |
| CD15 | Histiocytes and neutrophils in tissues, eg, colon, lung, tonsil lymphoid tissue |
| CD20 | Tonsil lymphoid tissue |
| CD21 | Tonsil germinal centers |
| CD23 | Tonsil germinal centers |
| CD25 | Tonsil lymphoid tissue |
| CD30 | Isolated lymphoid cells around germinal centers in tonsil |
| CD31 | Blood vessels in various tissues |
| CD34 | Blood vessels in various tissues |
| CD35 | Tonsil germinal centers |
| CD43 | Tonsil lymphoid tissue |
| CD45RO | Tonsil lymphoid tissue |
| CD45RB, leukocyte common antigen | Tonsil lymphoid tissue |
| CD54 | Liver, lung |
| CD56 | Brain tissue |
| CD57 (Leu7) | Isolated cells in germinal centers in tonsil; prostatic acini |
| CD68 | Histiocytes in tissues, eg, colon, lung |
| CD79a | Tonsil lymphoid tissue |
| CD99a (MIC2) | Thymoma (lymphoid cells) |
| CD117 (c-kit) | Brain, lung, tonsil and mast cells in many other tissues |
| Cdc2 | Breast cancer |
| Cdk2 | Colon |
| c-erbB2 | Breast cancer |
| Choriogonadotrophin | Placenta |
| Chromogranin-A | Isolated endocrine cells in crypts of colonic mucosa |
| Collagen I | Placenta |
| Collagen IV | Placenta, tonsil |
| Cox2 | Colon |
| CX3CR1 | Tonsil |
| Cyclin D1 | Suprabasal cells in stratified squamous epithelium of tonsil |
| CYP1B1 | Liver |
| Cytokeratin 7 | Various epithelial structures, except colon |
| Cytokeratin 20 | Colonic epithelium |
| Cytokeratin - high molecular weight | Stratified squamous epithelium of tonsil; basal cells of prostate |
| Cytokeratin - low molecular weight | Any of the epithelial structures, except the stratified squamous epithelium of tonsil |
| Cytokeratin-Pan | Any of the epithelial structures, eg, breast cancer, lung, thymoma, colon, prostate, thyroid |
| Desmin | Myometrium; muscularis of colon |
| E-GFR | Placenta |



Advancing Biomedical Science Through Tissue Arrays

| | |
|-----------------------------------|---|
| Epithelial membrane antigen (EMA) | Some of the epithelial structures |
| Estrogen receptor | Myometrium, breast carcinoma (+ + ~ + + +) |
| Factor VIII-related antigen | Blood vessels in various tissues |
| GAPDH (V-18) | Liver, lung |
| GCDFP-15(BRST-2) | Breast cancer |
| Glial fibrillary acidic protein | Brain tissue |
| HBcAg | Hepatocytes (Cirrhosis associated with hepatitis B) |
| HBsAg | Hepatocytes (Cirrhosis associated with hepatitis B) |
| hCG | Placenta |
| HDJ2 | Tonsil |
| Heme-oxygenase-1 (HO-1) | Lung |
| HEP-PAR 1 | Hepatocytes |
| HER2 | Breast carcinoma (+ +) |
| HGF | Liver |
| Histone H2AX | Tonsil |
| Histone H3 | Tonsil |
| HPL | Placenta, tonsil |
| HSA (hepatocyte specific antigen) | Liver |
| HMB-45 | Melanoma |
| IgA | Tonsil lymphoid tissue |
| IgD | Tonsil lymphoid tissue |
| IgE | Tonsil lymphoid tissue |
| IgG | Tonsil lymphoid tissue |
| IgM | Tonsil lymphoid tissue |
| Ig Kappa light chain | Tonsil lymphoid tissue |
| Ig lambda light chain | Tonsil lymphoid tissue |
| IL-1 | Lung |
| IL-6 | Lung |
| IL-8 | Lung |
| Ki67 | Many different tissues, eg, lymphoid tissue in tonsil |
| KP-1 | Colon, liver |
| Leukocyte common antigen (CD45RB) | Tonsil lymphoid tissue |
| MAC | Placenta |
| MAP2 | Brain |
| Melan-A | Melanoma |
| MMP-2 | Placenta |
| MMP-9 | Lung |
| MT-1 | Tonsil |
| MT-2 | Tonsil |
| Myeloperoxidase | Neutrophils within the blood vessels of various tissues |
| Nestin | Brain |
| NeuN | Brain |
| Neurofilament | Brain tissue |
| Neutrophil esterase | Tonsil |
| Nitrotyrosine | Placenta |



Advancing Biomedical Science Through Tissue Arrays

| | |
|--|---|
| NOS2 | Liver |
| NOS3 | Brain |
| NSE (neuron specific enolase) | Brain |
| Occludin | Lung |
| P53 | Thymoma (isolated cells with weak staining); tonsil lymphoid tissue (isolated cells with weak staining) |
| P63 | Breast cancer, colon |
| Paxillin | Placenta |
| PCNA | Tonsil |
| PLAP | Placenta, tonsil |
| Progesterone receptor | Myometrium |
| Prostatic specific antigen | Prostate |
| S100 protein | Brain tissue, melanoma |
| SCF (stem cell factor) | Brain |
| Serotonin | lung |
| Somatostatin | Brain |
| Somatostatin receptors | Brain |
| Sos-1 | Placenta |
| Surfactant | Lung (pneumocytes) |
| Synaptophysin | Brain tissue; isolated endocrine cells in crypts of colonic mucosa |
| TCR, beta | Thymoma, tonsil, appendix |
| TGF-beta RI | Prostate |
| TGF-beta1 LC | Placenta |
| TdT | Thymoma (lymphoid cells) |
| Thyroglobulin | Thyroid |
| Thyroid transcription factor-1 (TTF-1) | Lung (pneumocytes); thyroid |
| TNF, alpha | Lung |
| ULEX | Prostate, tonsil |
| VCAM-1 | Vessels in Tissue |
| Vimentin | Colon, Prostate, Tonsil, |
| vWF (von Willebrand Factor) | Tonsil |