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**SOMAPLEX™ REVERSE PHASE PROTEIN MICROARRAY
HUMAN LIVER TUMOR & NORMAL TISSUE**

25 CLINICAL CASES

SERIAL DILUTION MULTIPLE PROTEIN CONCENTRATION QUANTITATIVE ASSAY

PRODUCT NUMBER: PMA9-001-N

THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

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**SOMAPLEX™ REVERSE PHASE PROTEIN MICROARRAY
HUMAN LIVER TUMOR & NORMAL TISSUE**

**25 CLINICAL CASES; SERIAL DILUTION MULTIPLE PROTEIN CONCENTRATION
QUANTITATIVE ASSAY
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SomaPlex™ Protein Microarrays are designed for rapidly profiling protein expression in normal and tumor tissue lysates obtained from a large group of human patients. Protein expression can be determined using an antibody directed against the specific protein target, but the use of other protein-specific probes is possible under the proper assay conditions for the probe. Visualization of antibody binding may be accomplished using a number of detection systems including color development, enhanced chemiluminescence (ECL) and fluorescence. The image is subsequently captured, processed and manipulated using commercially available high resolution scanners or CCD-equipped instruments and software. Each lysate is spotted at a single concentration (1.0 mg/ml) in RIPA buffer that permits most soluble proteins to retain their native, or non-denatured, structure and activity in many cases.

There is an increasing demand for technologies that enable the high throughput screening of multiple protein targets from multiple clinical specimens. The ability to identify multiple proteins in multiple patient tissue lysates has broad applications in biological and biomedical research. The protein microarray platform is ideally suited to discovering and screening known and novel protein biomarkers. SomaPlex™ Cancer Tissue Lysate Protein Microarrays will ultimately prove to be valuable tools in the field of cancer proteomics and biomarker research.

SIGNIFICANT FEATURES OF THE SOMAPLEX™ CANCER TISSUE LYSATE PROTEIN MICROARRAYS ARE:

- Standard microarray slide format with single well
- Small incubation volume (600 ul)
- Rapid assay times (~4-5 hours using primary and labeled secondary antibodies)
- Large number of patient samples/assay
- Lysate spots are derived from high quality clinical specimens with detailed histopathology and;
- Individual lysates are available for additional, more thorough analysis
- Multiplex capabilities depending on probe choice
- Optimized microarray buffers and secondary antibodies reduce or eliminate background staining

GENERAL FEATURES OF THE SOMAPLEX™ CANCER TISSUE LYSATE PROTEIN MICROARRAYS:

- Tissue lysates are spotted in triplicate at a protein concentration of 1.0 mg/ml. Each spot contains [~5.0 ng] of total protein. A number of positive (two concentrations of IgG from several species) and negative (BSA; Lysis Buffer Only) controls are spotted in triplicate within each tissue lysate grid. Each array has a number of common cell line and normal tissue lysate controls arrayed in triplicate (see accompanying Table).
- Specially prepared nitrocellulose protein microarray sides are sensitive – wear non-latex, powder-free gloves when handling, do not touch the surface.
- Slides are recommended for single use only due to the possibility of excessive background developing and false positive/negative signals.

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**Components**

SomaPlex™ Cancer Tissue Lysate Protein Microarray Slides
ZeptoSeal™ Reusable Incubation Chamber
ZeptoBlock™ Microarray Blocking Buffer

Product Number

PMA9-001-N
PBT-9100
PBT-9001

PROTEIN BIOTECHNOLOGIES SOMAPLEX™ REVERSE PHASE PROTEIN MICROARRAYS**Instructions for Using Antibody Probes**

Caution: Please read notes (**) below before proceeding and handle microarray slides carefully. Wear powder-free non-latex gloves. Touching or scratching the special nitrocellulose coating on the glass slide could damage the microarray and result in loss of printed proteins.

Step 1. (**Do not allow the slide coating to dry out at any step during processing, as this will lead to an increase in background signal and loss of sensitivity). Wash slides in distilled H₂O to wet the nitrocellulose membrane

Step 2. (**Avoid using phosphate-containing buffers in cases where phospho-specific antibodies will be used. TBS buffer is a suitable substitute). Rinse the slides in 1X PBS or TBS-Tween 20 (0.1%) two times, 5 minutes each at room temperature.

Step 3. (**Zeptoblock™ Protein Microarray Blocking Buffer is formulated with fish protein, BSA and casein to inhibit non-specific protein binding. Non-fat dry milk, which contains varying amounts of biotin and will interfere with avidin/biotin based conjugate and detection systems and should not be used). Block the slide using ZeptoBlock™ Protein Microarray Blocking Buffer and a ZeptoSeal™ incubation chamber (cap. 800 ul) for 1-2 hours at room temperature. Alternatively, slides may be blocked overnight at 4 degrees C. Invert chamber on lab bench, pipette blocking reagent into chamber, place bottom edge of tilted slide membrane side down until liquid is contacted, lower slide onto chamber carefully to avoid bubbles. Edges of chamber and slide should be even with no overhanging regions. Alternatively, slide can be placed in any suitable container so that it remains submerged and wet during incubation steps.

Step 4. Dilute primary antibody with ZeptoBlock™, PBS or TBS/Tween 20 (0.01%) to the manufacturer's recommended concentration for Western blotting applications based on the sensitivity of your detection system. Incubate for the recommended time (e.g. 1-2 hours at room temperature; overnight at 4 degrees C, etc.).

Step 5. (**Tween 20 detergent has the potential to dissociate low affinity primary antibodies from their epitopes, thus shorter wash times should be used if this is the case or use wash buffers without Tween 20). Remove incubation chamber and wash slide six times for 3-5 minutes each at room temperature with PBS or TBS/Tween 20 (0.01%). Thoroughly wash incubation chamber.

Step 6. Repeat ZeptoSeal™ incubation chamber set up steps and incubate with appropriate secondary antibody diluted in PBS or TBS/Tween 20 (0.01%) at the recommended concentration for 1-2 hours at room temperature or overnight at 4 degrees C.

Step 7. Repeat wash steps as described in step 5.

Step 8. (**Overdeveloping may increase background signal intensity and reduce the dynamic range and sensitivity of the assay). Develop slides using appropriate reagents for the secondary antibody used (e.g. color development with TMB, luminescence with ECL reagents, fluorescence with fluorochrome tagged probes, etc.)

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Step 9. Image capture may be accomplished by directly scanning the slide on a high resolution desktop scanner, or using instrumentation systems employing CCD cameras and software for further manipulation and data analysis.

**For probing protein microarrays with probes other than antibodies (e.g. labeled peptides, proteins, nucleic acids, drugs/ligands, etc.), it will be necessary to empirically determine optimal procedures and reagents for blocking, incubation, washing, and imaging for each scenario.

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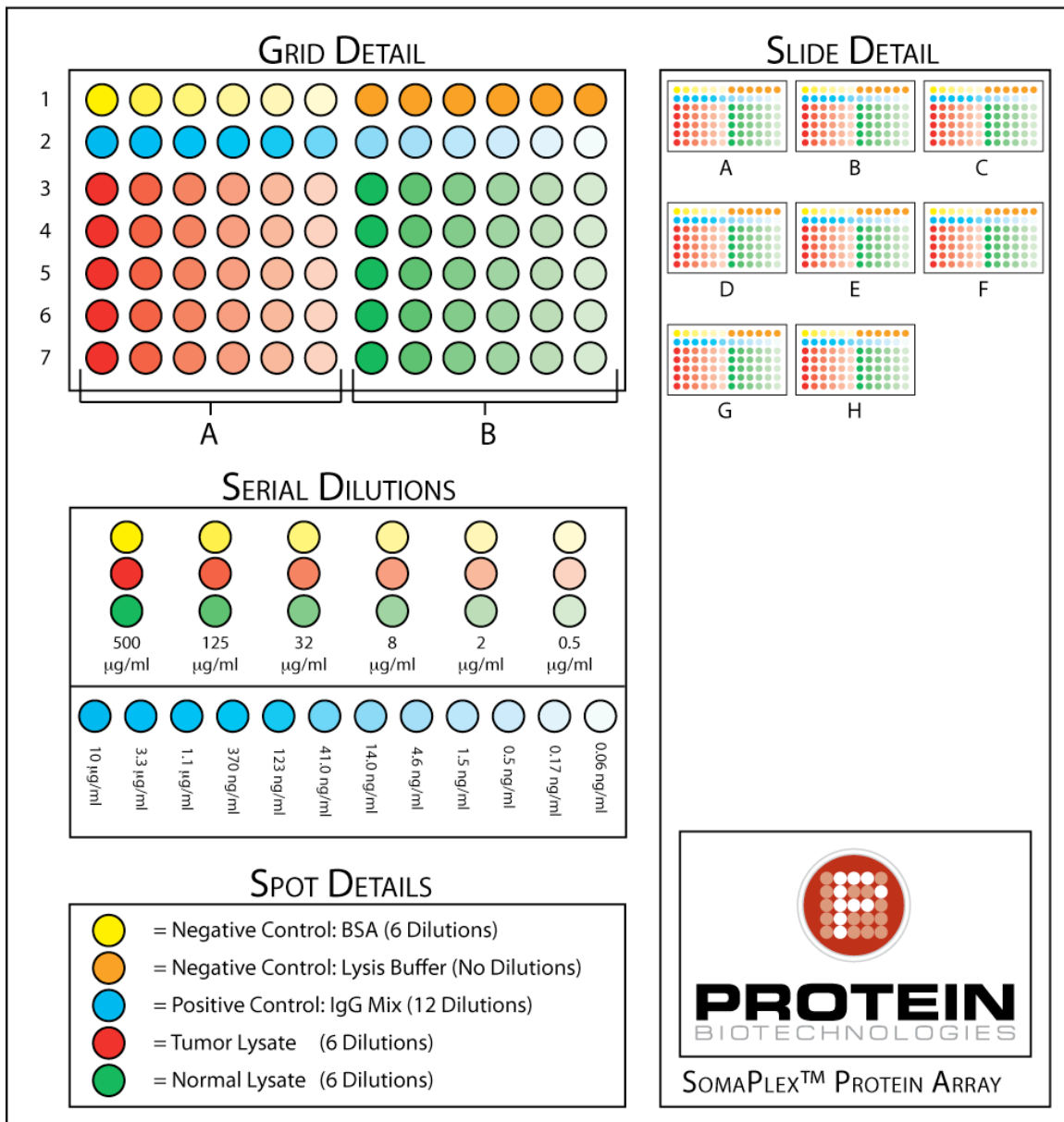


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Grid A

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Hepatocellular Carcinoma Grade 3 Stage n/a TNM n/a Male Age 3 mo 1:4 serial dilutions, Cat. No. T9-013-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Matched adjacent normal tissue for A3 1:4 serial dilutions, Cat. No. T9-013-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Hepatocellular Carcinoma Grade 3 Stage IIIa T₃N₀M₀ Male Age 59 1:4 serial dilutions, Cat. No. T9-017-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Normal tissue (not matched with A4) Male Age n/a 1:4 serial dilutions, Cat. No. T9-026-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Hepatocellular Carcinoma Grade 3 Stage IIIa T₃N₀M₀ Female Age 33 1:4 serial dilutions, Cat. No. T9-019-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Normal tissue (not matched with A5) Male Age n/a 1:4 serial dilutions, Cat. No. T9-027-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Hepatocellular Carcinoma Grade 2 Stage n/a TNM n/a Male Age 53 1:4 serial dilutions, Cat. No. T9-008-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Matched adjacent normal tissue for A6 1:4 serial dilutions, Cat. No. T9-008-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Hepatocellular Carcinoma Grade 2 Stage n/a TNM n/a Male Age 55 1:4 serial dilutions, Cat. No. T9-003-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Matched adjacent normal tissue for A7 1:4 serial dilutions, Cat. No. T9-003-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

Grid B

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₀ Male Age 32 1:4 serial dilutions, Cat. No. T9-011-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Matched adjacent normal tissue for A3 1:4 serial dilutions, Cat. No. T9-011-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Hepatocellular Carcinoma Grade 2 Stage I TNM n/a Male Age 61 1:4 serial dilutions, Cat. No. T9-014-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Matched adjacent normal tissue for A4 1:4 serial dilutions, Cat. No. T9-014-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₀ Male Age 47 1:4 serial dilutions, Cat. No. T9-022-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Matched adjacent normal tissue for A5 1:4 serial dilutions, Cat. No. T9-022-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Hepatocellular Carcinoma Grade 2 Stage n/a TNM n/a Male Age 49 1:4 serial dilutions, Cat. No. T9-007-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Matched adjacent normal tissue for A6 1:4 serial dilutions, Cat. No. T9-007-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₀ Male Age 46 1:4 serial dilutions, Cat. No. T9-024-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Matched adjacent normal tissue for A7 1:4 serial dilutions, Cat. No. T9-024-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

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Grid C

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Hepatocellular Carcinoma Grade 2 Stage n/a TNM n/a Male Age 52 1:4 serial dilutions, Cat. No. T9-009-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Normal tissue (not matched with A3) Male Age n/a 1:4 serial dilutions, Cat. No. T9-026-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₁ Male Age 57 1:4 serial dilutions, Cat. No. T9-006-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Normal tissue (not matched with A4) Male Age n/a 1:4 serial dilutions, Cat. No. T9-027-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₁ Male Age 53 1:4 serial dilutions, Cat. No. T9-004-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Normal tissue (not matched with A5) Male Age 23 1:4 serial dilutions, Cat. No. T9-028-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₁ Female Age 23 1:4 serial dilutions, Cat. No. T9-005-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Normal tissue (not matched with A6) Male Age 50 1:4 serial dilutions, Cat. No. T9-029-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₁ Female Age 51 1:4 serial dilutions, Cat. No. T9-015-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Normal tissue (not matched with A7) Male Age 50 1:4 serial dilutions, Cat. No. T9-010-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

Grid D

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Hepatocellular Carcinoma Grade 2 Stage IIIa T₃N₀M₀ Female Age 37 1:4 serial dilutions, Cat. No. T9-016-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Normal tissue (not matched with A3) Male Age n/a 1:4 serial dilutions, Cat. No. T9-026-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₁ Male Age 57 1:4 serial dilutions, Cat. No. T9-020-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Normal tissue (not matched with A4) Male Age n/a 1:4 serial dilutions, Cat. No. T9-027-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Hepatocellular Carcinoma Grade 2 Stage n/a TNM n/a Female Age 42 1:4 serial dilutions, Cat. No. T9-002-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Normal tissue (not matched with A5) Male Age 23 1:4 serial dilutions, Cat. No. T9-028-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Hepatocellular Carcinoma Grade 2 Stage IIIa T₃N₀M₀ Male Age 60 1:4 serial dilutions, Cat. No. T9-023-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Normal tissue (not matched with A6) Male Age 50 1:4 serial dilutions, Cat. No. T9-029-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Hepatocellular Carcinoma Grade n/a Stage III TNM n/a Male Age 44 1:4 serial dilutions, Cat. No. T9-012-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Matched adjacent normal tissue for A7 1:4 serial dilutions, Cat. No. T9-012-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

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Grid E

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Trabecular Adenocarcinoma Grade 2 Stage n/a TNM n/a Male Age 39 1:4 serial dilutions, Cat. No. T9-001-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Matched adjacent normal tissue for A3 1:4 serial dilutions, Cat. No. T9-001-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Hepatocellular Adenomatoid Grade 2 Stage IIIc T₃N₁M₀ Male Age 70 1:4 serial dilutions, Cat. No. T9-018-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Matched adjacent normal tissue for A4 1:4 serial dilutions, Cat. No. T9-018-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Hepatocellular Fibrolamellar Grade 2 Stage II T₂N₀M₀ Male Age 52 1:4 serial dilutions, Cat. No. T9-021-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Matched adjacent normal tissue for A5 1:4 serial dilutions, Cat. No. T9-021-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Gastrointestinal Stromal Grade 1 Stage II T₃N₀M₀ Female Age 34 1:4 serial dilutions, Cat. No. T9-025-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Normal tissue (not matched with A6) Male Age 50 1:4 serial dilutions, Cat. No. T9-029-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Hepatocellular Carcinoma Grade 2 Stage II T₂N₀M₀ Male Age 32 1:4 serial dilutions, Cat. No. T9-011-T-1	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Matched adjacent normal tissue for A7 1:4 serial dilutions, Cat. No. T9-011-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

Grid F (Control grid 1)

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Human Cell Line A549 Lung Carcinoma 1:4 serial dilutions, Cat. No. CL-01	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Normal Human Lung Tissue, Male, Age 42 1:4 serial dilutions, Cat. No. T1-001-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Human Cell Line MCF7 Breast Carcinoma 1:4 serial dilutions, Cat. No. CL-04	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Normal Human Breast Tissue, Female, Age 36 1:4 serial dilutions, Cat. No. T2-002-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Human Cell Line PC3 Prostate Adenocarcinoma 1:4 serial dilutions, Cat. No. CL-05	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Normal Human Prostate Tissue, Male, Age 40 1:4 serial dilutions, Cat. No. T3-005-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Human Cell Line HeLa Cervix Carcinoma 1:4 serial dilutions, Cat. No. CL-02	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Normal Human Cervix Tissue, Female, Age 21 1:4 serial dilutions, Cat. No. T4-001-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Human Cell Line OVCAR-3 Ovarian Adenocarcinoma 1:4 serial dilutions, Cat. No. CL-16	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Normal Human Ovary Tissue, Female, Age 32 1:4 serial dilutions, Cat. No. T5-010-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

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Grid G (Control grid 2)

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Human Cell Line CRL-1976 Uterine Sarcoma 1:4 serial dilutions, Cat. No. CL-23	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Normal Human Uterus Tissue, Female, Age 30 1:4 serial dilutions, Cat. No. T6-007-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Human Cell Line HT-29 Colon Adenocarcinoma 1:4 serial dilutions, Cat. No. CL-08	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Normal Human Colon Tissue, Female, Age 38 1:4 serial dilutions, Cat. No. T7-032-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Human Cell Line AGS Stomach Adenocarcinoma 1:4 serial dilutions, Cat. No. CL-29	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Normal Human Stomach Tissue, Male, Age 43 1:4 serial dilutions, Cat. No. T8-023-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Human Cell Line Hep G2 Liver Carcinoma 1:4 serial dilutions, Cat. No. CL-06	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Normal Human Liver Tissue, Male, Age 32 1:4 serial dilutions, Cat. No. T9-011-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Human Cell Line T24 Bladder Carcinoma 1:4 serial dilutions, Cat. No. CL-20	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Normal Human Bladder Tissue, Female, Age 45 1:4 serial dilutions, Cat. No. T10-008-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

Grid H (Control grid 3)

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 10 µg/ml / 3.3 µg/ml / 1.1 µg/ml / 370 ng/ml / 123 ng/ml / 41 ng/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 1:3 serial dilutions	IgG concentrations 14.0 ng/ml / 4.6 ng/ml / 1.5 ng/ml / 0.5 ng/ml / 0.17 ng/ml / 0.06 ng/ml
A2	Negative Control, BSA only, 1:4 serial dilutions	BSA concentrations 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B2	Negative Control, buffer only, no dilutions	Lysate buffer
A3	Human Cell Line 786-0 Kidney Adenocarcinoma 1:4 serial dilutions, Cat. No. CL-22	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B3	Normal Human Kidney Tissue, Male, Age 37 1:4 serial dilutions, Cat. No. T11-023-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A4	Human Cell Line Jurkat Lymphoma/Leukemia 1:4 serial dilutions, Cat. No. CL-03	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B4	Normal Human Larynx Tissue, Female, Age 62 1:4 serial dilutions, Cat. No. T13-007-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A5	Human Cell Line A431 Epidermoid Carcinoma 1:4 serial dilutions, Cat. No. CL-09	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B5	Normal Human Skin Tissue, Female, Age 38 1:4 serial dilutions, Cat. No. T15-008-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A6	Human Cell Line Raji Burkitt Lymphoma 1:4 serial dilutions, Cat. No. CL-15	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B6	Normal Human Thyroid Tissue, Male, Age 21 1:4 serial dilutions, Cat. No. T16-021-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32
A7	Human Cell Line THP-1 Monocytic Leukemia 1:4 serial dilutions, Cat. No. CL-21	Tumor tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml	B7	Normal Human Bone Marrow Tissue, Male, Age 37 1:4 serial dilutions, Cat. No. T18-024-N-1	Normal tissue 500 µg/ml / 125 µg/ml / 32 µg/ml / 8 µg/ml / 2 µg/ml / 0.5 µg/ml 32

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