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

35 CLINICAL CASES

SINGLE PROTEIN CONCENTRATION QUALITATIVE ASSAY

PRODUCT NUMBER: PMA16-001-L

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SOMAPLEX™ REVERSE PHASE PROTEIN MICROARRAY HUMAN THYROID TUMOR & NORMAL TISSUE

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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

PMA16-001-L
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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1672 Main St. Ste. E #264 • Ramona, CA 92065 • Tel: 760.789.8928 • Fax: 760.789.8929 • Toll Free: 800.475.1955 •
www.proteinbiotechnologies.com

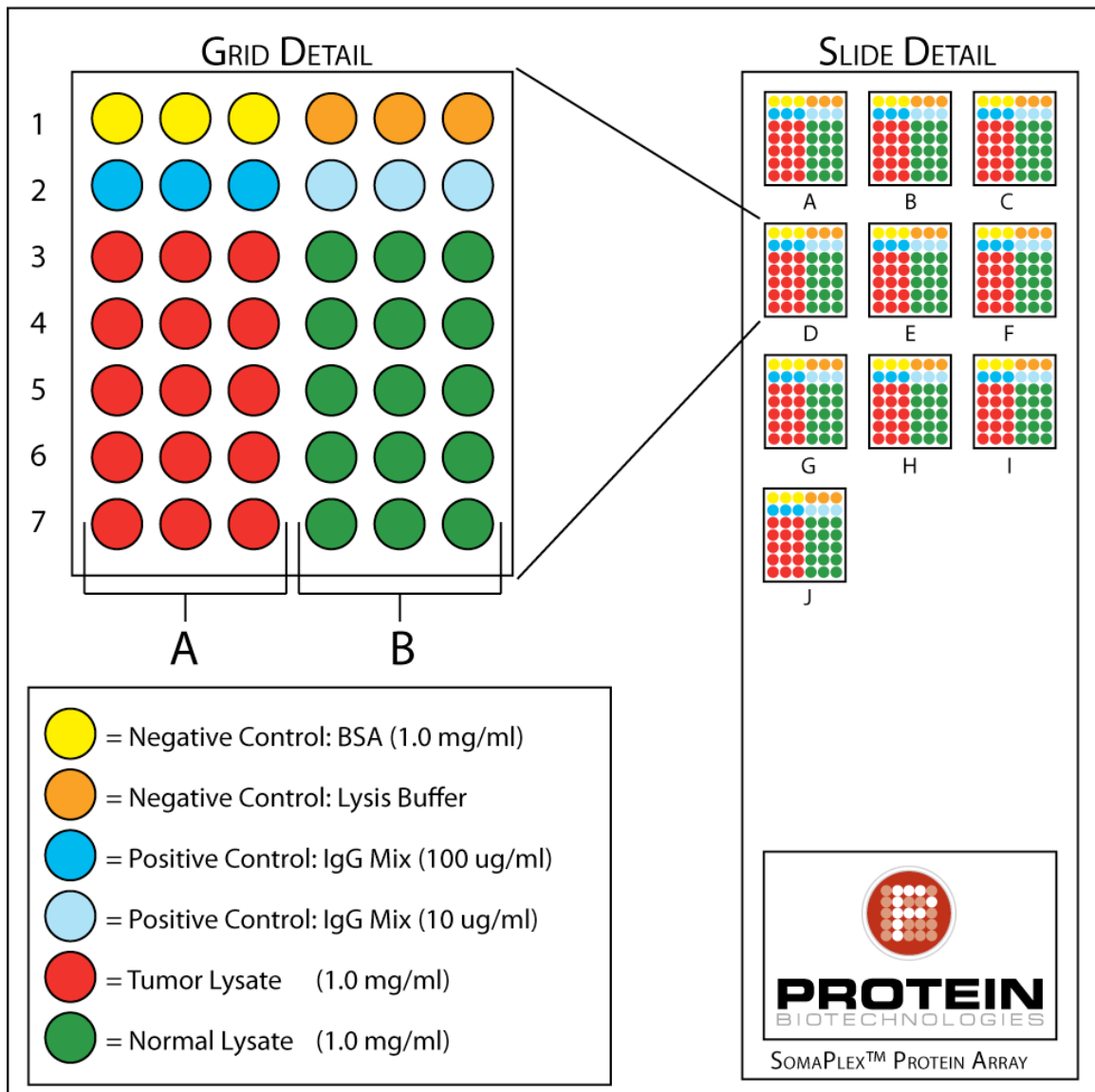


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PROTEIN BIOTECHNOLOGIES

Grid A

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Papillary Carcinoma Grade 2 Stage III T₂N₁M₀ Female Age 24 1 mg/ml, 3 replicates, Cat. No. T16-033-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal tissue (not matched with A3) 1 mg/ml, 3 replicates, Cat. No. T16-025-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Papillary Carcinoma Grade 1 Stage n/a T₂N_{1a}M₀ Female Age 18 1 mg/ml, 3 replicates, Cat. No. T16-009-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Matched adjacent normal tissue for A4 1 mg/ml, 3 replicates, Cat. No. T16-009-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Papillary Carcinoma Grade 1 Stage n/a TNM n/a Female Age 58 1 mg/ml, 3 replicates, Cat. No. T16-015-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Matched adjacent normal tissue for A5 1 mg/ml, 3 replicates, Cat. No. T16-015-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Papillary Carcinoma Grade 1 Stage I T₁N₀M₀ Male Age 64 1 mg/ml, 3 replicates, Cat. No. T16-016-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal tissue (not matched with A6) 1 mg/ml, 3 replicates, Cat. No. T16-027-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Papillary Carcinoma Grade 1 Stage n/a TNM n/a Female Age 73 1 mg/ml, 3 replicates, Cat. No. T16-019-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal tissue (not matched with A7) 1 mg/ml, 3 replicates, Cat. No. T16-031-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

Grid B

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Papillary Carcinoma Grade 1 Stage II TNM n/a Female Age 66 1 mg/ml, 3 replicates, Cat. No. T16-020-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal tissue (not matched with A3) 1 mg/ml, 3 replicates, Cat. No. T16-009-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Papillary Carcinoma Grade 1 Stage II TNM n/a Male Age 21 1 mg/ml, 3 replicates, Cat. No. T16-021-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Normal tissue (not matched with A4) 1 mg/ml, 3 replicates, Cat. No. T16-010-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Papillary Carcinoma Grade 1 Stage I TNM n/a Female Age 22 1 mg/ml, 3 replicates, Cat. No. T16-022-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Normal tissue (not matched with A5) 1 mg/ml, 3 replicates, Cat. No. T16-011-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Papillary Carcinoma Grade 1 Stage II T₂N₀M₀ Female Age 46 1 mg/ml, 3 replicates, Cat. No. T16-023-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal tissue (not matched with A6) 1 mg/ml, 3 replicates, Cat. No. T16-012-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Papillary Carcinoma Grade 1 Stage I T₁N₀M₀ Female Age 35 1 mg/ml, 3 replicates, Cat. No. T16-028-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal tissue (not matched with A7) 1 mg/ml, 3 replicates, Cat. No. T16-013-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

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Grid C

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Papillary Carcinoma Grade 1 Stage II T ₂ N ₀ M ₀ , Female Age 22 1 mg/ml, 3 replicates, Cat. No. T16-029-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal tissue (not matched with A3) 1 mg/ml, 3 replicates, Cat. No. T16-014-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Papillary Carcinoma Grade 1 Stage II T ₂ N ₀ M ₀ , Female Age 70 1 mg/ml, 3 replicates, Cat. No. T16-030-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Normal tissue (not matched with A4) 1 mg/ml, 3 replicates, Cat. No. T16-015-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Papillary Carcinoma Grade 1 Stage II T ₂ N ₀ M ₀ , Male Age 56 1 mg/ml, 3 replicates, Cat. No. T16-031-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Normal tissue (not matched with A5) 1 mg/ml, 3 replicates, Cat. No. T16-017-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Papillary Carcinoma Grade 1 Stage II T ₂ N ₀ M ₀ , Female Age 44 1 mg/ml, 3 replicates, Cat. No. T16-032-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal tissue (not matched with A6) 1 mg/ml, 3 replicates, Cat. No. T16-018-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Papillary Carcinoma Grade n/a Stage III T ₂ N ₀ M ₀ , Female Age 38 1 mg/ml, 3 replicates, Cat. No. T16-034-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal tissue (not matched with A7) 1 mg/ml, 3 replicates, Cat. No. T16-035-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

Grid D

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Papillary Carcinoma Grade n/a Stage II T ₂ N ₀ M ₀ , Male Age 42 1 mg/ml, 3 replicates, Cat. No. T16-013-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Matched adjacent normal tissue for A3 1 mg/ml, 3 replicates, Cat. No. T16-013-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Papillary Carcinoma Grade n/a Stage n/a TNM n/a Female Age 38 1 mg/ml, 3 replicates, Cat. No. T16-014-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Matched adjacent normal tissue for A4 1 mg/ml, 3 replicates, Cat. No. T16-014-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Papillary Carcinoma Grade n/a Stage III T ₂ N ₀ M ₀ , Male Age 25 1 mg/ml, 3 replicates, Cat. No. T16-010-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Matched adjacent normal tissue for A5 1 mg/ml, 3 replicates, Cat. No. T16-010-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Papillary Carcinoma Grade n/a Stage II T ₂ N ₀ M ₀ , Male Age 39 1 mg/ml, 3 replicates, Cat. No. T16-011-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Matched adjacent normal tissue for A6 1 mg/ml, 3 replicates, Cat. No. T16-011-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Papillary Carcinoma Grade n/a Stage III T ₂ N ₀ M ₀ , Female Age 30 1 mg/ml, 3 replicates, Cat. No. T16-007-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal tissue (not matched with A7) 1 mg/ml, 3 replicates, Cat. No. T16-009-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

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Grid E

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Papillary Carcinoma Grade n/a Stage n/a TNM n/a Male Age n/a 1 mg/ml, 3 replicates, Cat. No. T16-001-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal tissue (not matched with A3) 1 mg/ml, 3 replicates, Cat. No. T16-010-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Papillary Carcinoma Grade n/a Stage n/a TNM n/a Female Age 49 1 mg/ml, 3 replicates, Cat. No. T16-005-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Normal tissue (not matched with A4) 1 mg/ml, 3 replicates, Cat. No. T16-011-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Thyroid Carcinoma Grade 2 Stage II T ₂ N ₀ M ₀ , Female Age 49 1 mg/ml, 3 replicates, Cat. No. T16-026-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Normal tissue (not matched with A5) 1 mg/ml, 3 replicates, Cat. No. T16-013-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Thyroid Carcinoma Grade n/a Stage n/a TNM n/a Female Age n/a 1 mg/ml, 3 replicates, Cat. No. T16-002-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal tissue (not matched with A6) 1 mg/ml, 3 replicates, Cat. No. T16-013-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Thyroid Carcinoma Grade n/a Stage n/a TNM n/a Male Age 32 1 mg/ml, 3 replicates, Cat. No. T16-035-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Matched adjacent normal tissue for A7 1 mg/ml, 3 replicates, Cat. No. T16-035-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

Grid F

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Medullary Carcinoma Grade 2 Stage III T ₂ N ₂ M ₁ , Female Age 38 1 mg/ml, 3 replicates, Cat. No. T16-024-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal tissue (not matched with A3) 1 mg/ml, 3 replicates, Cat. No. T16-014-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Medullary Carcinoma Grade 2 Stage n/a TNM n/a Female Age 56 1 mg/ml, 3 replicates, Cat. No. T16-025-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Matched adjacent normal tissue for A4 1 mg/ml, 3 replicates, Cat. No. T16-025-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Medullary Carcinoma Grade 2 Stage III T ₂ N ₂ M ₁ , Female Age 21 1 mg/ml, 3 replicates, Cat. No. T16-027-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Matched adjacent normal tissue for A5 1 mg/ml, 3 replicates, Cat. No. T16-027-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Medullary Carcinoma Grade n/a Stage n/a TNM n/a Female Age 5 1 mg/ml, 3 replicates, Cat. No. T16-004-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal tissue (not matched with A6) 1 mg/ml, 3 replicates, Cat. No. T16-015-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Papillary Adenocarcinoma Grade n/a Stage III T ₂ N ₂ M ₁ , Female Age 53 1 mg/ml, 3 replicates, Cat. No. T16-006-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal tissue (not matched with A7) 1 mg/ml, 3 replicates, Cat. No. T16-035-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

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Grid G

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Follicular Carcinoma Grade n/a Stage III T ₃ N ₀ M ₀ Female Age 14 1 mg/ml, 3 replicates, Cat. No. T16-003-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal tissue (not matched with A3) 1 mg/ml, 3 replicates, Cat. No. T16-025-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Benign Colloid Nodules Grade n/a Stage n/a TNM n/a Female Age 72 1 mg/ml, 3 replicates, Cat. No. T16-008-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Normal tissue (not matched with A4) 1 mg/ml, 3 replicates, Cat. No. T16-027-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Cystadenocarcinoma Grade n/a Stage n/a T _{1b} N ₀ M ₀ Female Age 46 1 mg/ml, 3 replicates, Cat. No. T16-012-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Matched adjacent normal tissue for A5 1 mg/ml, 3 replicates, Cat. No. T16-012-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Adenocystic Carcinoma Grade 2 Stage IIb T ₂ N ₁ M ₀ Male Age 67 1 mg/ml, 3 replicates, Cat. No. T16-017-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Matched adjacent normal tissue for A6 1 mg/ml, 3 replicates, Cat. No. T16-017-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Adenocystic Carcinoma Grade n/a Stage II T ₂ N ₁ M ₀ Female Age 32 1 mg/ml, 3 replicates, Cat. No. T16-018-T-1	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Matched adjacent normal tissue for A7 1 mg/ml, 3 replicates, Cat. No. T16-018-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

Grid H (Control grid 1)

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Human Cell Line A549 Lung Carcinoma 1 mg/ml, 3 replicates, Cat. No. CL-01	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal Human Lung Tissue, Male, Age 42 1 mg/ml, 3 replicates, Cat. No. T1-001-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Human Cell Line MCF7 Breast Carcinoma 1 mg/ml, 3 replicates, Cat. No. CL-04	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Normal Human Breast Tissue, Female, Age 36 1 mg/ml, 3 replicates, Cat. No. T2-002-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Human Cell Line PC3 Prostate Adenocarcinoma 1 mg/ml, 3 replicates, Cat. No. CL-05	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Normal Human Prostate Tissue, Male, Age 40 1 mg/ml, 3 replicates, Cat. No. T3-005-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Human Cell Line HeLa Cervix Carcinoma 1 mg/ml, 3 replicates, Cat. No. CL-02	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal Human Cervix Tissue, Female, Age 21 1 mg/ml, 3 replicates, Cat. No. T4-001-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Human Cell Line OVCA9-3 Ovarian Adenocarcinoma 1 mg/ml, 3 replicates, Cat. No. CL-16	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal Human Ovary Tissue, Female, Age 32 1 mg/ml, 3 replicates, Cat. No. T5-010-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

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PROTEIN BIOTECHNOLOGIES

Grid I (Control grid 2)

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Human Cell Line CRL-1976 Uterine Sarcoma 1 mg/ml, 3 replicates, Cat. No. CL-23	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal Human Uterus Tissue, Female, Age 30 1 mg/ml, 3 replicates, Cat. No. T6-007-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Human Cell Line HT-29 Colon Adenocarcinoma 1 mg/ml, 3 replicates, Cat. No. CL-08	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Normal Human Colon Tissue, Female, Age 38 1 mg/ml, 3 replicates, Cat. No. T7-032-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Human Cell Line AGS Stomach Adenocarcinoma 1 mg/ml, 3 replicates, Cat. No. CL-29	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Normal Human Stomach Tissue, Male, Age 43 1 mg/ml, 3 replicates, Cat. No. T8-023-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Human Cell Line Hep G2 Liver Carcinoma 1 mg/ml, 3 replicates, Cat. No. CL-06	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal Human Liver Tissue, Male, Age 32 1 mg/ml, 3 replicates, Cat. No. T9-011-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Human Cell Line T24 Bladder Carcinoma 1 mg/ml, 3 replicates, Cat. No. CL-20	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal Human Bladder Tissue, Female, Age 45 1 mg/ml, 3 replicates, Cat. No. T10-008-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

Grid J (Control grid 3)

A1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 100 µg/ml, 3 replicates	IgG 100 µg/ml	IgG 100 µg/ml	IgG 100 µg/ml	B1	Positive Control, chicken, goat, mouse, and rabbit IgG mix, 10 µg/ml, 3 replicates	IgG 10 µg/ml	IgG 10 µg/ml	IgG 10 µg/ml
A2	Negative Control, BSA only, 1 mg/ml, 3 replicates	BSA 1 mg/ml	BSA 1 mg/ml	BSA 1 mg/ml	B2	Negative Control, buffer only, 3 replicates	Lysate buffer	Lysate buffer	Lysate buffer
A3	Human Cell Line 786-0 Kidney Adenoarcinoma 1 mg/ml, 3 replicates, Cat. No. CL-22	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B3	Normal Human Kidney Tissue, Male, Age 37 1 mg/ml, 3 replicates, Cat. No. T11-023-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A4	Human Cell Line Jurkat Lymphoma/Leukemia 1 mg/ml, 3 replicates, Cat. No. CL-03	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B4	Normal Human Larynx Tissue, Female, Age 62 1 mg/ml, 3 replicates, Cat. No. T13-007-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A5	Human Cell Line A431 Epidermoid Carcinoma 1 mg/ml, 3 replicates, Cat. No. CL-09	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B5	Normal Human Skin Tissue, Female, Age 38 1 mg/ml, 3 replicates, Cat. No. T15-008-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A6	Human Cell Line Raji Burkitt Lymphoma 1 mg/ml, 3 replicates, Cat. No. CL-15	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B6	Normal Human Thyroid Tissue, Male, Age 21 1 mg/ml, 3 replicates, Cat. No. T16-021-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml
A7	Human Cell Line THP-1 Monocytic Leukemia 1 mg/ml, 3 replicates, Cat. No. CL-21	Tumor 1 mg/ml	Tumor 1 mg/ml	Tumor 1 mg/ml	B7	Normal Human Bone Marrow Tissue, Male, Age 37 1 mg/ml, 3 replicates, Cat. No. T18-024-N-1	Normal 1 mg/ml	Normal 1 mg/ml	Normal 1 mg/ml

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