



Magnetic Luminex® Performance Assay Human Osteopontin (OPN) Kit

Catalog Number: LHK1433

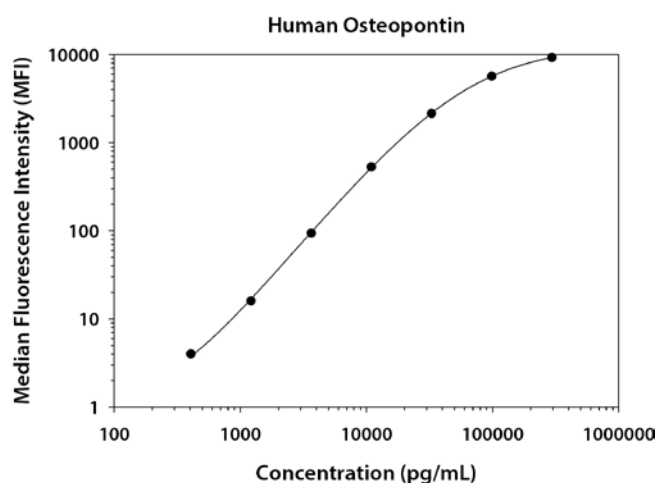
Pack Size: 100 Tests

SPECIFICATIONS AND USE

- Recommended Sample Types**
- Serum, EDTA plasma, heparin plasma, and urine.
- Microparticle Region**
- Region-28
- Components**
- Microparticle Concentrate (Part 894305) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
 - Biotin-Antibody Concentrate (Part 894316) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.
- Other Supplies Required**
- Magnetic Luminex Performance Assay Human Kidney Biomarker Base Kit (Catalog Number LHK000).
- Storage**
- Store the unopened kit at 2-8 °C. Do not use past the expiration date on the label.
 - **Avoid freezing microparticles.**
 - **Protect microparticles from light.**
- Instructions for Use**
- Refer to the Base Kit insert for the Magnetic Luminex Performance Assay procedure.

TYPICAL DATA

This human Osteopontin standard curve is provided only for demonstration. A standard curve must be generated each time an assay is run, utilizing values from the Standard Value Card included in the Base Kit.



| Standard | pg/mL | MFI | Average | Corrected |
|----------|---------|--------------|---------|-----------|
| Blank | 0 | 11 11 | 11 | — |
| 1 | 295,500 | 9202 9324 | 9263 | 9252 |
| 2 | 98,500 | 5657 5741 | 5699 | 5688 |
| 3 | 32,833 | 2128 2179 | 2154 | 2143 |
| 4 | 10,944 | 533 548 | 541 | 530 |
| 5 | 3648 | 105 105 | 105 | 94 |
| 6 | 1216 | 27 27 | 27 | 16 |
| 7 | 405 | 15 15 | 15 | 4 |

PERFORMANCE CHARACTERISTICS

All data were collected with assays run as a multiplex.

Sensitivity - The Minimum Detectable Dose (MDD) was determined by adding two standard deviations to the MFI of twenty zero standard replicates and calculating the corresponding concentration.

Thirty-two assays were evaluated, and the MDD of human Osteopontin ranged from 8.1-247 pg/mL. The mean MDD was 133 pg/mL.

CORRELATION

This assay has been correlated to the respective Quantikine® ELISA kit with a slope of 0.9-1.1 and an R² value greater than 0.9.

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

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Intra-assay Precision (precision within an assay) - Three samples of known concentration were tested twenty times on one plate to assess precision within an assay.

Inter-assay Precision (precision between assays) - Three samples of known concentration were tested in separate assays to assess precision between assays. Assays were performed by at least three technicians using two lots of components.

| | Intra-assay Precision | | | | Inter-assay Precision | | |
|--------------------|-----------------------|--------|---------|--|-----------------------|--------|---------|
| Sample | 1 | 2 | 3 | | 1 | 2 | 3 |
| n | 20 | 20 | 20 | | 72 | 70 | 72 |
| Mean (pg/mL) | 2702 | 17,630 | 121,750 | | 2717 | 17,696 | 118,682 |
| Standard Deviation | 59.6 | 232 | 3919 | | 277 | 1031 | 11,549 |
| % CV | 2.2 | 1.3 | 3.2 | | 10.2 | 5.8 | 9.7 |

Linearity - Samples containing and/or spiked with high concentrations of Osteopontin were serially diluted to evaluate assay linearity.

| | | Serum (n=4) | EDTA plasma (n=4) | Heparin plasma (n=4) | Urine (n=4) |
|-----|-----------------------|----------------|-------------------------|----------------------------|----------------|
| 1:2 | Average % of Expected | 106 | 106 | 96 | 97 |
| | Range (%) | 101-111 | 101-110 | 94-97 | 90-102 |
| 1:4 | Average % of Expected | 108 | 102 | 96 | 97 |
| | Range (%) | 97-120 | 101-102 | 91-102 | 93-100 |
| 1:8 | Average % of Expected | 110 | 103 | 73 | 102 |
| | Range (%) | 96-133 | 101-104 | 63-83 | 100-104 |

Specificity - This assay recognizes natural and recombinant human Osteopontin. The assay was tested for cross-reactivity and interference with the following factors. Less than 0.5% cross-reactivity and interference was observed.

| Recombinant human: | | | | Recombinant mouse: | Other recombinants: | Recombinant human multiplex partners: |
|--------------------|--------------------|--------------------|---------------|--------------------|------------------------------|---------------------------------------|
| ApoA1 | Cathepsin O | CXCL2/GRO β | HPRG | Clusterin | bovine Osteopontin | Clusterin |
| ApoA2 | Cathepsin S | CXCL3/GRO γ | IFN- γ | Cystatin C | | Cystatin C |
| ApoB | Cathepsin V | CXCL5/ENA-78 | Lipocalin-1 | CXCL10/IP-10/CRG-2 | | Lipocalin-2/NGAL |
| ApoB100 | Cathepsin Z | CXCL6/GCP-2 | MMP-3 | HGF | | CXCL10/IP-10 |
| ApoC1 | CCL2/MCP-1 | CXCL7/NAP-2 | MMP-7 | Lipocalin-2/NGAL | Natural human proteins: | HGF |
| ApoC2 | CCL5/RANTES | CXCL8/IL-8 | MMP-9 | Osteopontin (OPN) | α 1-Acid Glycoprotein | Fetuin A |
| ApoD | Cystatin A | CXCL9/MIG | MSP | TIM-1/KIM-1/HAVCR | Kininogen | RBP4 |
| ApoE | Cystatin B | CXCL11/I-TAC | Plasminogen | | | TFF3 |
| ApoH | Cystatin E/M | CXCL12/SDF-1 | Serpin A1 | | | TIM-1/KIM-1/HAVCR |
| ApoM | Cystatin F | CXCL13/BLC/BCA-1 | TIM-3 | Recombinant rat: | | |
| Cathepsin A | Cystatin S | Enterokinase | TIM-4 | Clusterin | | |
| Cathepsin B | Cystatin SA | Fetuin B | TFF-1 | Fetuin A | | |
| Cathepsin C | Cystatin SN | Fibronectin | TFF-2 | TIM-1/KIM-1/HAVCR | | |
| Cathepsin D | Clusterin-like 1 | HAI-1 | Thrombin | | | |
| Cathepsin E | COX-2 | HAI-2 | | | | |
| Cathepsin F | CRP | HGF R/c-MET | | | | |
| Cathepsin L | CXCL1/GRO α | HGF Activator | | | | |

TECHNICAL HINTS

- Protect the microparticles and streptavidin-PE from light at all times.
- Refer to the Base Kit Standard Value Card for reconstitution volume and values of the reconstituted standard.
- Diluted microparticles cannot be stored. Make a fresh dilution of microparticles each time the assay is run.
- The use of a magnetic device made to accommodate a microplate is necessary for washing.
- Discrepancies may exist in values obtained for the same analyte utilizing different technologies.

Luminex Performance Assays afford the user the benefit of multianalyte analysis of biomarkers in a complex sample. A single, multipurpose diluent is used to optimize recovery, linearity, and reproducibility. Such a multipurpose diluent may not optimize any single analyte to the same degree that a unique diluent selected for analysis of that analyte can optimize conditions. Therefore, some performance characteristics may be more variable than those for assays designed specifically for single analyte analysis.