



### Klotho

For **Research Use Only**. Not for use in diagnostic procedures.

#### Background

Klotho is a type-I transmembrane protein that is associated with many functions. A novel  $\beta$ -glucuronidase, Klotho has been associated with phosphate regulation, organ protection, and aging, among others. Though a single gene, it has three major isoforms: the transmembrane form, a shed soluble form, and a truncated soluble form. The extracellular portion of the protein consists of two glycosyl hydrolase domains referred to as KL1 and KL2. Upon cleavage at the base of the extracellular domain the protein becomes the shed soluble form and is an active form that functions as a hormone. Importantly, Klotho is a receptor and a co-receptor of the phosphate regulation protein FGF-23. While Klotho/FGF-23 homeostasis has primarily been focused on phosphate and vitamin D regulation, continuing research is associating Klotho and FGF-23 with functionality that impacts the heart, bones, blood vessels, and parathyroid gland.

#### Specificity

This MicroVue Klotho EIA assay utilizes a capture monoclonal anti-Klotho antibody specific to the KL2 region coated on the plate, and a detection mouse monoclonal anti-Klotho antibody specific to the KL1 region. The specificity of the monoclonal antibodies was established via epitope mapping and a series of immunoassays.

#### Format

- 96-well microplate with reagents sufficient to test 40 samples in duplicate
- Controls included: High, Low

#### Assay Performance

**Samples:** Plasma and Serum  
**Specimen Volume:** 100  $\mu$ L  
**Limit of Detection:** 0.04 ng/mL  
**Lower Limit of Quantitation:** 0.13 ng/mL  
**Upper Limit of Quantitation:** 18.00 ng/mL  
**Precision (intra-assay):** 4.5%  
**Precision CVs (inter-assay):** 12.4%  
**Assay Time:** 3 hours 45 minutes  
**Species Cross-reactivity:** None  
**Storage:** Store unopened kit between 2°C to 8°C.  
Refer to manual for storing individual components.

MicroVue Klotho EIA – Cat. #8050

Also available:

Klotho Antibody (KL2) – Cat. #21-9158  
Klotho Antibody (KL1) – Cat. #21-9159

MicroVue FGF-23 C-term ELISA – Cat. #60-6100  
MicroVue FGF-23 (Intact) ELISA – Cat. #60-6600

