Pacific Biomarkers
The Value of Expertise

CTX (C-Terminal Telopeptides of Type I Collagen), Urine

Analyte: C-terminal telopeptides of type I collagen

Specimen Type: Urine

Optimum Volume: 0.5 mL

Stability:

2-8 Degrees C	-20 Degrees C	-70 Degrees C
5 days	26 days	2 years

Reporting Units: ug/L; ug/mmol Cr (normalized)

Method: ELISA

Biological or Clinical Significance:

Type I collagen CTX accounts for more than 90% of the organic matrix of bone and is synthesized primarily in bone. During renewal of the skeleton, type I collagen is degraded, and small peptide fragments are excreted in the urine. One of these fragments, which is specific for type I collagen, can be measured as an indication of human bone resorption and may be used as an aid in monitoring bone resorption changes of anti-resorptive therapies and predicting skeletal response in postmenopausal women undergoing anti-resorptive therapies. This assay has been reported as useful for follow-up of anti-resorptive treatment of patients with metabolic bone disease.

Principle of Test Method:

The urine CTX assay is a solid-phase ELISA designed to measure human CTX in urine. It employs the competitive enzyme immunoassay principle. CTX is reported as a normalized ratio to urinary creatinine in order to account for variations in urine flow rate. Therefore CTX and urine creatinine are preferably tested from the same aliquot.

References:

1. Ju H-S J, Leung S, Brown B, Stringer MA, Leigh S, Scherrer C, Shepard K, Jenkins D, Knudsen J, Cannon R. Comparison of analytical performance and biological variability of three bone resorption assays. Clin Chem. 1997; 43:1570-1576.

2. Qvist P, Munk M, Hoyle N, Christiansen C. Serum and plasma fragments of C-telopeptides of type I collagen (CTX) are stable during storage at low temperatures for 3 years. Clin Chim Acta. 2004; 350:167-173.

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