



UniQ® ICTP UniQ® PINP UniQ® PIIINP

UniQ® ICTP

For assessing and monitoring pathological bone degradation

- Serum marker for early detection of cancer metastases in bone
- Detects minor changes in bone mineral density earlier than bone scan

LAB

UniQ® ICTP

C-terminal telopeptide of type I collagen

Type I collagen is present mostly in bones, where its maturation into fibres involves the formation of type-specific collagen crosslinks. The ICTP antigen is a crosslinked peptide found in blood as a result of pathological degradation of mature type I collagen fibres. Increased concentrations of ICTP in serum are therefore encountered primarily in conditions associated with increased lysis of bone, such as osteolytic metastases, multiple myeloma and rheumatoid arthritis.

Clinical use of UniQ ICTP

The UniQ ICTP assay is a useful tool of early detection of bone metastasis in e.g. patients with breast cancer or prostate cancer.

Several years before osteolytic lesions are radiologically detectable, ICTP can reveal bone resorption among patients suspected with multiple myeloma.

In patients with active rheumatoid arthritis, elevated ICTP levels reflect increased collagen degradation and progression of joint disease. Serum ICTP at 6 months – compared to radiological outcome at 2 years – can be used to identify patients who need intensified treatment.

Benefits of UniQ ICTP RIA

- Serum assay: antigen very stable in sample, low biological and analytical variation
- Easy sample handling
- Sensitive, non-invasive and easily repeatable
- Enables early detection of pathological changes in bone

References:

1. Garnero P et al. The type I collagen fragments ICTP and CTX reveal distinct enzymatic pathways of bone collagen degradation. *J Bone Mineral Res* 2003;18:859-867
2. Koizumi M et al. Bone metabolic markers in bone metastasis of breast cancer. *Int J Clin Oncology* 1999;4:331-337
3. Voorzanger-Rousselot N et al. Association of 12 serum biochemical markers of angiogenesis, tumour invasion and bone turnover with bone metastases from breast cancer: a cross-sectional and longitudinal evaluation. *Br J Cancer*. 2006;95:506-514
4. Noguchi M and Noda S. Pyridinoline cross-linked carboxyterminal telopeptide of type I collagen as a useful marker for monitoring metastatic bone activity in men with prostate cancer. *J Urol* 2001;166:1106-1110
5. Jakob C et al. Incorporation of the bone marker carboxy-terminal telopeptide of type-1 collagen improves prognostic information of the International Staging System in newly diagnosed symptomatic multiple myeloma. *Leukemia* 2008;22:1767-1772
6. Schütt P et al. The clinical significance of soluble human leukocyte antigen class-I, ICTP, and RANKL molecules in multiple myeloma patients. *Hum Immunol*. 2008;69:79-87
7. Hakala M et al. Combination drug strategy in recent-onset rheumatoid arthritis suppresses collagen I degradation and is associated with retardation of radiological progression. *Scand J Rheumatol*. 2008;37:90-93



UniQ®

UniQ® ICTP RIA	Cat. No. 68601
Tracer	1 x 22 ml
Antiserum	1 x 22 ml
Calibrators	7 x 0.75 ml
Controls (lyophilised)	2 x 1 ml
Separation reagent	60 ml

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