



UniQ® ICTP   UniQ® PINP   UniQ® PIIINP

# UniQ® PINP RIA

For assessing and monitoring osteoporosis

- Serum marker for detecting increased bone turnover
- Test result correlates with bone scan and as a more sensitive method it detects minor changes in bone mineral density
- Ideal tool for monitoring antiresorptive and anabolic therapy

LAB

# UniQ® PINP

## *N-terminal propeptide of type I procollagen*

The concentration of PINP in blood is directly related to the amount of new collagen laid down in tissues, and can therefore be used to assess new bone formation rate. Bone remodelling is achieved by two tightly coupled opposite processes, bone formation and bone resorption. Measuring bone formation markers, such as PINP, as well as bone resorption markers assists the investigation of bone turnover under normal and abnormal conditions.

PINP has been found useful in monitoring metabolic bone diseases and also provides a sensitive tool in detecting increased bone turnover in patients with postmenopausal osteoporosis.

### Clinical use of UniQ® PINP

Bone mineral density (BMD) measurement is considered the gold standard. Nevertheless, as BMD measurements only reflect the patient's current bone status, PINP can provide additional information to BMD by showing the patient's rate of bone turnover. Elevated baseline levels of PINP have been associated with faster bone loss in postmenopausal women.

When used to monitor antiresorptive therapy, **PINP can show the effect of therapy on bone turnover within a few months.**<sup>1,2</sup> In contrast, it takes approximately two years before a significant BMD response can be detected in the patient. Recent data also indicate that PINP is especially useful for monitoring the effects of anabolic and antiresorptive treatments in patients with osteoporosis.<sup>1,3,4</sup> Early PINP assessment of the effectiveness of osteoporosis therapy will not only help with **choosing the right treatment option** for the patient but will also **encourage patient compliance to the treatment.**

### Benefits of UniQ® PINP RIA

- Serum assay: low biological and analytical variation
- Easy sample handling
- Serum sample: antigen very stable in sample



# UniQ®

### References:

1. Eastell R et al. Development of an algorithm for using PINP to monitor treatment of patients with teriparatide. *Curr Med Res Opin* 2006;22:61-66
2. Reginster J-Y et al. Reduction in PINP, a marker of bone metabolism, with raloxifene treatment and its relationship with vertebral fracture risk. *Bone* 2004, 34:344-351
3. Scario J et al. Critical differences in the serial measurement of three biochemical markers of bone turnover in the sera of pre- and postmenopausal women. *Clin Biochem* 2001, 34:639-644
4. Tähtelä R et al. Serum tartrate-resistant acid phosphatase 5b in monitoring bisphosphonate treatment with clodronate: a comparison with urinary N-terminal telopeptide of type I collagen and serum type I procollagen amino-terminal propeptide. *Osteoporos Int* 2005;16:1109-1116

UniQ® PINP RIA	Cat. No. 67034
Tracer	1 x 22 ml
Antiserum	1 x 22 ml
Calibrators	7 x 0.5 ml
Controls (lyophilised)	2 x 1 ml
Separation reagent	1 x 60 ml

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