SydPath
ST VINCENT'S PATHOLOGY

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PINP – PROCOLLAGEN TYPE I N-TERMINAL PROPEPTIDE INFORMATION SHEET

PATHOPHYSIOLOGY (including comparison with osteoaclcin)

PINP is a serum marker of bone formation. PINP – Procollagen Type I N-terminal Propeptide - is a fragment of type I collagen which is released into the circulation during the process of bone formation. PINP has low circadian rhythm and is not affected by meals allowing sample collection at any time of day.

PINP may be elevated in severe reduction of renal function (eg eGFR <30 mL/min/1.73m2). PINP concentrations can be expected to increase with any cause of increased bone turnover. This includes growth, healing fracture, Paget's disease, some bone malignancies and bony metastases.

PINP concentrations fall with use of the oral contraceptive pill and hormone replacement therapy. In response to specific anti-resorption therapy such as bisphosphonates the concentration of PINP can be expected to fall by over 50% within 3 months of starting therapy. In response to the bone growth promoter teriparatide concentrations may increase to greater than twice the baseline in three months.

PINP has a low within-subject within-subject biological variation (expressed as a coefficient of variation of about 10%). These properties are of particular use for monitoring patients as samples can be collected at any time and changes of about 25% are likely to be clinically significant.

PINP MEASUREMENT DETAILS

PINP can be measured in serum or plasma with no special sample handling requirements.

PINP is a bone marker recommended for use by the IFCC/IOF for inclusion in bone marker studies. This is leading to increasing amounts of supporting clinical information for this marker.

PINP is measured on the Roche Modular system. Most PINP tests in Australia use this assay allowing for direct comparison of results from different laboratories.