

# Results of 36,047 Patient Values for Intact PTH, 1-84 PTH (CAP), C Terminal PTH Fragments (7-84 PTH) and Ratio

Tom Cantor<sup>1</sup>, Patty Glowacki<sup>1</sup>

<sup>1</sup>Scantibodies Laboratory, Inc., Santee, CA, USA

For >15 years, parathyroid and bone status have been assessed in dialysis patients by the "intact" PTH (iPTH) assay with the assumption that it measures only 1-84 PTH. Several reports confirm 10-90% of any given iPTH value may be 1-84 PTH—the rest consists of large C terminal PTH fragments, likely 7-84 PTH. Faugere et al reported that the 1-84 PTH/large C terminal fragment ratio predicts bone status with 93% reliability, identifying a ratio cutoff of 1.0: patients with a ratio <1.0 had adynamic bone disease (ABD). That study included patients who had never received agents known to affect turnover. Dr. Qi et al., have reported that overall, 52% of dialysis patients—including those receiving such agents—have ABD. Knowing the ratio cutoff reflective of patients receiving agents that affect turnover would be useful.

We measured EDTA plasma from 36,047 dialysis patients. Blood was drawn into EDTA. Within 60 min., samples were centrifuged, the plasma separated and frozen until tested. Samples were tested for total iPTH by an IRMA that measures both 1-84 PTH and 7-84 PTH in an equimolar basis. Samples were also tested in a specific 1-84 PTH IRMA that has been validated and demonstrated not to cross react with 2-34, 3-34, 4-34, 5-34 and 7-84 PTH. For each sample the large

C terminal PTH fragments and ratio of 1-84 PTH/C terminal PTH fragments were calculated.

For the 36,047 samples the mean total iPTH, 1-84 PTH, large C terminal PTH fragments and ratio were as follows: 307.67 pg/mL, 197.02 pg/mL, 108.76 pg/mL and 2.68. Linear regression analysis of total iPTH versus 1-84 PTH revealed a slope of 0.6364 and a CC of 0.969.

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