

# THE SCANTIBODIES CAP/CIP RATIO IDENTIFIES 40 % MORE ADYNAMIC BONE DISEASE PATIENTS THAN THE SCANTIBODIES TOTAL INTACT PTH, CAP ALONE, OR NICHOLS BIO-INTACT PTH ASSAYS

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The intact PTH assay detects 1-84 PTH plus 7-84 PTH. 7-84 PTH functions as a biological antagonist to 1-84 PTH. Over the last 5 years, 2 new specific 1-84 PTH assays have become commercially available: the Scantibodies CAP assay and the Nichols Bio-Intact PTH assay. Moreover, Drs. Malluche and Tokumoto have independently demonstrated with bone histology that the 1-84 PTH/7-84 PTH ratio more accurately diagnoses bone turnover than do the intact PTH assay or the specific 1-84 PTH assay. Therefore, we compared the diagnostic utility of these different assays with regards to bone turnover. Using reported reference ranges we studied 10 of our dialysis patients to see if there were any diagnostic differences between patient values for Bio-Intact PTH, Scantibodies Total PTH (intact PTH), CAP, and the CAP/CIP ratio. We observed no difference in patient classification between the Bio-Intact PTH, Intact PTH, or CAP assay values. However, using the CAP/CIP ratio, we found an additional 40% of patients classified with adynamic bone disease. The CAP/CIP ratio provided the most useful non-invasive approach to identify adynamic bone disease.

Bio-Intact	SCL Total PTH	CAP	CIP	Ratio
(80-150)	(150-300)	(90-170)		≤1.4 = Low
932	916.96	728	188	3.8
265	337.75	152	185	0.82
299	459.84	275	184	1.5
822	1001.8	588	413	1.4
379	606.45	246	359	0.69
206	400.42	193	207	0.93
270	334.47	183	150	1.2
572	881.93	570	311	1.8
162	239.12	134	104	1.29
688	807.51	524	283	1.85
117	180.9	91	89	1.03
132	239.94	117	122	0.96
226	338.48	172	166	1.03
16	25.45	15	9	1.58
277	392.09	230	161	1.43
503	694.35	462	232	1.99
895	695.26	436	258	1.69
75	111.04	57	53	1.09
344	417.88	293	124	2.35
313	442.98	296	146	2.02

H = high bone turnover disease diagnosis    N = normal bone turnover diagnosis  
L = adynamic low bone turnover disease diagnosis

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