Brigham Research Assay Core (BRAC)
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Renin Activity, Plasma

Method:	Radioimmunoassay (RIA)
Kit Manufacturer:	Diasorin, Inc., Stillwater, MN
Description:	The procedure is based on competitive binding principles of radioimmunoassay (RIA). In the GammaCoat [125I] Plasma rennin Activity (PRA) RIA kit, the antibody is immobilized onto the lower inner wall of the GammaCoat tube. The PRA determination involved an initial incubation of plasma to generate angiotensin I, followed by quantitation of angiotensin I by RIA. The generation of angiotensin I in vitro is dependent of pH incubation, extent of plasma dilution, choice of enzyme inhibitors, length of incubation and lenghth of RIA. Our kit method uses 3 hours RIA incubation and a 18 hours incubation if values are low (< 1 ng/mL/hour).

Collection and Performance Characteristics

Tube type:	Preferred: EDTA Alternate: none
Volume:	Exactly 1 mL per aliquot (Quick freeze in dry ice/alcohol)
Lowest Reportable Value:	0.1 ng/mL/hr
Dynamic range:	0.1-50 ng/mL/hr
Precision:	Intra-assay variation is 4.6-10% Inter-assay variation is 5.6-7.6%
Reference Range:	<u>Supine</u> High Na: 0.5 – 3.0 ng/mL/hr Low Na: 2.5 – 8.0 ng/mL/hr <u>Upright</u> High Na: 0.2 – 6.0 ng/mL/hr Low Na: 2.5 – 14 ng/mL/hr

Reference:
1. Williams GH and Dluhy RG, "Diseases of the Adrenal Cortex," Harrison's Principles of Internal Medicine, 11th ed, Braunwald E, Isselbacher KJ, Petersdorf RG, et al, eds, New York, NY: McGraw-Hill, 1987, 1753-74.