Radioimmunoassay (RIA)

The assay is based upon the competition between the unlabeled analyte (either the varying concentrations of the standard or the test samples) and the ^{125}I-labeled analyte for the limited binding sites available on the primary analyte-specific antibody. The amount of ^{125}I-labeled analyte able to bind to the primary antibody decreases as the concentration of the unlabeled analyte in the reaction increases. The addition of the secondary antibody, and subsequent centrifugation allows the immuno-complex to form a radioactive pellet. Any unbound analyte is removed through aspiration. The pellet is then measured for activity using a gamma counter. The concentration of the sample analytes can be determined from the generated standard curve.