

Competitive immunochemical determination of antigens using conjugates containing Co(II) and Ni(II)

Dykhal Y., Medyantseva E., Murtazina N., Kalacheva N., Budnikov G.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

A new variant of competitive heterogeneous immunoassay for certain proteinaceous antigens has been developed. The assay is based on the use of the target protein conjugated with Co(II) or Ni(II) ions and immobilized antibodies. The effect of catalytic hydrogen release allows quantitation of the metal ion labels by voltammetry at the final step of the assay. The conjugates have been characterized by spectrophotometry, voltammetry, atomic adsorption spectrometry, and nuclear magnetic relaxation. Based on the use of the conjugate RNase-diethylenetriaminepentaacetic acid-Co(II) (10:4:4), a competitive immunoassay for RNase has been developed, detecting the target protein in the range 2×10^{-2} - 2×10^{-4} mg/ml.

<http://dx.doi.org/10.1023/B:ABIM.0000018926.34327.c8>
