

**Abstract:**

A relatively simple, specific and sensitive radioimmunoassay system has been developed for the detection of heterophile Hanganutziu-Deicher (H-D) antigen(s) and antibodies. The <sup>125</sup>I-labeled H-D antigen-active molecule used for the assay is a bovine erythrocyte major glycoprotein found to have a strong H-D antigen potency. The antigen-antibody complex was precipitated with normal human serum as the carrier protein, followed by the addition of rabbit anti-human IgG F(ab')<sub>2</sub> serum. With this method, different H-D antigen-active molecules were compared for heterophile H-D antigen potency with reasonable sensitivity detecting about 0.3 ng of cold glycoprotein. 8 different lung cancer tissues were assayed for H-D antigen. The sera from the 8 lung cancer patients were also screened by ELISA and RIA in an attempt to correlate expression of H-D antigen on tissues with elevation of H-D antibodies. The results showed that all patients' tissues expressed the antigen(s) but only 3 of them had abnormal levels of H-D antibodies. This could have been due to excess antigens in circulation or immune complexes.