Detection of Luteinizing Hormone β-core Fragment by Immunoblotting

Human chorionic gonadotropin (hCG) and luteinizing hormone (LH) are known to exist in multiple molecular forms, including β-core fragments. The objective of this study was to apply methodology developed based on immunoblotting and chemiluminescent detection of the hCG β-core fragment, to detection of the LH β-core fragment, previously measured only by immunoradiometric analysis.

Urine collected from the periovulatory phase of the menstrual cycle was concentrated and applied to SDS-PAGE. Monoclonal antisera (gift from Columbia University Health Sciences), developed to differentiate between the hCG and LH β-core fragments, was then utilized in the immunoblot procedure. A single band was detected with a similar but slightly retarded migration relative to the hCG β-core fragment. This rate of migration is consistent with the calculated molecular weight of the LH β-core fragment. Since the LH β-core fragment has not yet been purified from urine, this methodology will permit both the simultaneous separation and detection of both fragments as well as providing an additional analytical step in future purification procedures.