# Immuno-PCR assay for simultaneous detection of multiple proteins

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**Abstract**

Determination of an immune status of individuals to severe pathogens requires an assay that can detect immunoproteins at very low concentration levels.[1] Here, we describe a multianalyte Immuno- Polymerase Chain Reaction (IPCR) assay for simultaneous detection of multiple proteins (anti-immunoglobulins from goat, horse, human, mouse, and rabbit serums). The procedure used was similar to an Enzyme-linked immunosorbent assay (ELISA) except that the detecting antibodies were conjugated to a short reporter DNA using biotin-streptavidin linkage rather than an enzyme. The anti-immunoglobulins were simultaneously detected by amplifying the reporter DNAs using multiplex PCR method, and the detection efficiency was compared with a conventional ELISA. The quantity of detected reporter DNA depends upon the level of specific antibodies in the test sample.[2] Using this strategy, simultaneous detection of several immunoproteins was achieved and the efficiency was enourmously improved. Given the enormous amplification afforded to differentiate DNA sequences and size, this assay strategy provides the basis for the simultaneous detection of many analytes at highly specific and sensitive level.

**References**

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