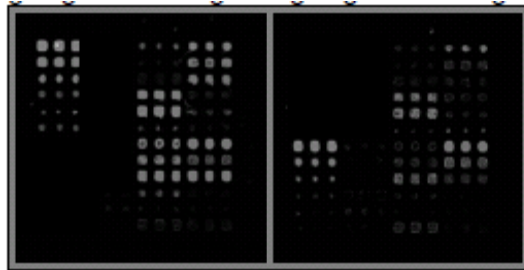


Proteomic TipChip for High Speed Serology

The identification of a pathogen in a biological sample often involves testing for the proteins or nucleic acids of multiple pathogens in a series of immunoassays or PCR amplifications. Detection of antibodies to pathogens in patients' serum is an alternative that requires less time and labor. A proteomic TipChip was developed for the Ziplax[®] System featuring a microarray of antigens of various infectious disease agents. When incubated with serum, antibodies bind to specific pathogen antigens and are detected with labeled secondary antibodies specific for IgG or IgM. The relative amounts of IgG and IgM antibodies that bind to an antigen indicate whether the infection is recent or chronic.

Infectious Disease Antigens	
B.bergdorferi	K.pneumoniae
CMV	P.aeruginosa Endotoxin
EBV	P.aeruginosa lectin PA-1
HBV adr	P.aeruginosa LPS
HBV core	S.marcescens LPS
HCV	S. minnesota LPS
HIV p24	S. typhimurium LPS
Influenza A	T.gondii
Influenza B	Rubella Level 1
HSV 1	Rubeola
HSV 2	C.trachomatis
RSV	C.jejuni
VZV	H.pylori

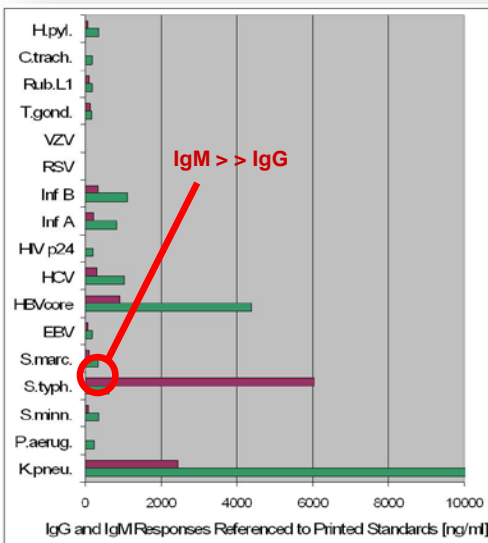


IgG image

IgM image

Arrays of antigens along with standard calibrators were printed in triplicate on TipChips.

After incubation with pooled samples, the TipChips were incubated with HRP conjugated IgG and IgM secondary antibodies followed by a chemiluminescent substrate to quantify the bound antibodies.



In most examples with detectable pathogens, responses of IgG antibodies (green) were markedly greater than those of IgM antibodies (purple), indicating a past or chronic infection.

For *Salmonella typhimurium* the greater response of IgM suggests a recent infection of this pathogen.

Highlights:

- Up to 8 infectious disease serology arrays were processed in only 45 minutes
- Antibodies to hundreds of antigens can be detected on Ziplax TipChip arrays in one serum sample
- Fully automated sample and reagent handling throughout each step of the assay



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