

Poster presentation

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Cultured enzyme-linked immunospot assay (ELISPOT) enhances detection of low HIV-specific immune responses in exposed seronegative individuals in Kenya

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There is increasing evidence that many HIV exposed, seronegative individuals generate HIV-specific cellular immune responses. IFN γ ELISPOT has emerged as one of the widely used assay to monitor HIV-specific immune responses. It is becoming the assay of choice for evaluation of HIV-vaccine-induced cell-mediated immune responses in many clinical trials. However, HIV specific IFN γ T cell responses often wane with time and may eventually become undetectable using the direct ELISpot method. There is need for a more sensitive detection method to enhance the detection of such responses when they fall below levels detectable by direct ELISpot. This study seeks to determine if cultured ELISpot enhance detection of low HIV specific immune responses. 12 high-risk HIV negative individuals were followed up every 3 months for 9 months. During follow-up history was obtained, HIV rapid tests performed and blood samples obtained for assessment of HIV specific responses using both direct and cultured ELISpot assays. 5 discordant couples were also recruited and HIV specific responses assessed by both direct and cultured ELISpot. Preliminary data shows that there were no IFN γ responses detected by direct ELISpot. 6/12 high-risk HIV seronegative volunteers gave positive responses to 1, 2, 4, 9 and 90 peptide pools using Cultured ELISpot at different time points during follow up. Positive responses range from 125 to 1934 spot forming units (SPU/106).

The results indicate that cultured ELISpot amplified the immune responses and thus enhanced their detection. It appears that cultured ELISpot is more sensitive than direct ELISpot and it is the test of the future.