

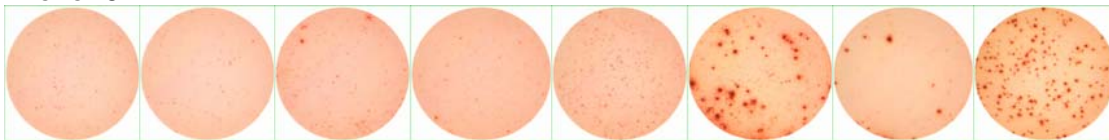
Evaluation of cell-mediated immunocompetence using ELISPOT assay.

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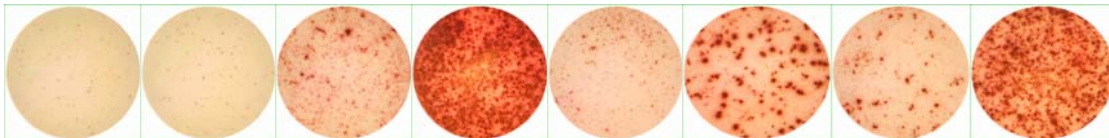
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The systemic suppression of immunity is commonly observed in cancer patients. Since immunotherapeutic treatments are targeted to induce effective immune responses against tumor, the capability of patient cell - mediated immunity (CMI) may make a major difference in the immunotherapy outcome. The skin test for hypersensitivity to recall antigens, widely used for patient selection in immunotherapy clinical trials, does not provide a quantitative measure of reactivity and often generates false positive as well as false negative results. We evaluated PBMC from a group of 20 normal donors for the reactivity to 6 common recall antigens (tetanus toxoid, *candida albicans*, cytomegalovirus (CMV), tuberculosis purified protein derivative (PPD), mumps, and varicella zoster virus (VZV)), mixture of CEF (CMV, Epstein-Barr virus (EBV), and influenza) peptides, and phytohaemagglutinin (PHA) using IFN γ ELISPOT assay. The donors demonstrated various patterns and levels of antigen recognition. Individual patterns were highly reproducible from day to day. Most of the donors demonstrated reactivity to mumps (90% of donors responded, average 136 IFN γ secreting cells/300,000 PBMC) and VZV (70%, average 31 IFN γ secreting cells/300,000 PBMC). CMV induced the highest level of reactivity (50% responded, average 1179 IFN γ secreting cells/300,000 PBMC). Statistical analysis of the results enabled calculations of the positivity thresholds for the T cell immune responses to these antigens. Such thresholds may be useful for the real time evaluation of cell-mediated immunocompetence in prospective clinical trials participants. We suggest that incorporation of this extended and more quantitative methodology may enable selection of an appropriate patient population likely to benefit from the immunotherapy and increase a frequency of positive responses to the treatment.

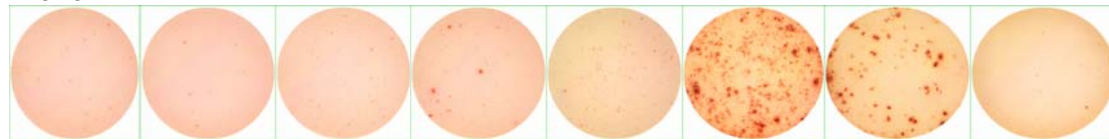
Donor 6



Donor 4



Donor 7



Media Tetanus toxoid *Candida albicans* CMV PPD Mumps VZV CEF peptide mix