



Assess Immunomodulation in Drug Development

In Vitro Immunomodulation and Immunotoxicity Studies Performed by STEMCELL Technologies Inc.'s Contract Assay Services

Assess various immune system components using in vitro studies designed and performed by STEMCELL Technologies' Contract Assay Services. Cells from primary human or mouse sources are isolated, enriched and assayed to assess in vitro effects of test articles on immune pathways, including pro- or anti-inflammatory responses. Custom assays can be designed and optimized to fit your particular question.

We Can Customize:

- FACS analysis
- Quantification of immune effector molecules (e.g. cytokines and immunoglobulins)
 - ELISA
 - Cytometric bead analysis (for simultaneous analysis of multiple analytes)
- Cell proliferation (BrdU protocol)
- Chemotactic assays
- Characterization of antibodies

Why Use Contract Assay Services?

- Obtain biologically relevant information about your substance of interest
- Rapid turn-around time
- Complete confidentiality
- Customized experiments to meet your individualized needs
- Comprehensive reports

ECVAM Recommendation for Assessing Immunosuppression

The European Centre for the Validation of Alternative Methods (ECVAM) recommends assessment of myelotoxicity as the initial step for performing in vitro testing of immunosuppression.

"Compounds that are capable of damaging or destroying the bone marrow will often have a profoundly immunotoxic effect, since the effectors of the immune system itself will no longer be available. Thus, if a compound is myelotoxic, there may be no need to proceed with additional evaluation since the material will be a de facto immunotoxicant...An initial evaluation of myelotoxicity should be performed. If a compound is myelotoxic, there may be no need to proceed with additional evaluation."

Contract Assay Services has the expertise to assess myelotoxicity using the colony-forming cell (CFC) assay.

In the CFC assay, progenitor cells, in response to cytokines and supplements in the culture medium, proliferate and differentiate into mature cell types. These can be distinguished morphologically and enumerated. A change in the colony numbers and/or morphology of compound-treated cultures compared to control cultures indicates hematotoxicity.

Importantly, the vitro CFC assay has been shown to yield clinically predictive information allowing for better planning and overall reduction in in vivo studies.²

References

1. Gennari A, et al. The Use of In Vitro Systems for Evaluating Immunotoxicity: The Report and Recommendations of an ECVAM Workshop. *J Immunotoxicol* 2: 61-83, 2005
2. Pessina A et al. *Toxicological Sciences*. 75: 355-367, 2003



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