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First Publication of Standardized Immune Monitoring Methods From the Virtual Global Transplantation Laboratory Initiative

Edward K. Geissler, PhD[1] on behalf of the vGTL group

An initiative was recently launched by the Transplantation Science Committee of The Transplantation Society to gather researchers engaged in immune monitoring (IM) with the aim of creating a forum for sharing expertise in standardizing immune assay methods. The initiative was initially named the Global Virtual Laboratory (known as the GVL),[1] but the group has since decided to more aptly call it the "virtual Global Transplantation Laboratory" (vGTL).

For members of the vGTL core group, it is gratifying to see the early fruition of this initiative with the first publication in this issue of *Transplantation Direct* of a standard operating procedure for blood collection, peripheral blood mononuclear cell isolation, and storage.[2] Proper and consistent handling of cellular components derived from peripheral blood is a first order task in any IM laboratory. Those researchers familiar with IM assays that have tested the impact of consistent handling of peripheral blood cells know well how much the quality of these samples impacts results in various immune assays, including phenotyping by flow cytometry or functional testing by enzyme-linked immunospot assay, just to name some examples. Although the vGTL group recognizes that there is not only one standard operating procedure for preparing and storing peripheral blood samples, we propose that it will serve our transplantation research community around the world to publish well-established methods from experienced IM groups, after consultation with a variety of experts, and after a thorough peer-review process. The vGTL methods we publish will provide a resource not only for less experienced IM monitoring laboratories involved in clinical trials, but also for well-established laboratories to compare their adopted methodologies. The idea is to bring the research community together toward the use of more standardized IM methods, which will allow for better comparability of results from different clinical trials and from basic research studies.

At the root of this initiative is the use of IM to improve our ability to accurately measure the effects, and potential benefits, of current and novel treatment strategies for optimizing and understanding allograft transplantation. Clinical trials are increasingly incorporating IM to better assess effects and outcomes over time, but often the IM approaches are diverse and not standardized to the point where results from different trials can be compared. Considering the infrequency and high costs of new clinical trials, we should become more self-obligated to improve our ability to trust and compare IM results between trials. The vGTL is committed to take steps in this direction and plans to periodically publish articles with this aim in *Transplantation Direct*. Indeed, in the upcoming months, we will publish recommendations and standard operating procedures for the IFN-γ enzyme-linked immunospot assay method, as well as for flow cytometry phenotyping using whole blood and peripheral blood isolated mononuclear cells. The vGTL group welcomes your suggestions for soliciting other standardized IM-related methods of importance and would also like to receive your opinion on the content and value of the standard methods being published. Feel free to share your views in the form of a letter to the *Transplantation Direct* editorial group.

No single IM standard operating procedure is perfect, or necessarily fits the needs of all researchers. Furthermore, as the technologies evolve, procedures need to be updated on a continual basis. Nonetheless, we believe that the publication of vGTL protocols will provide a solid reference point for IM laboratories, especially those involved in clinical trials in the field of transplantation.

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