

Antigen-Specific T Cell Tolerance Assays for Myelin-Associated Antigens in Multiple Sclerosis

Request for Proposals

Background

The ITN has an interest in antigen-specific T cell tolerance in multiple sclerosis, an autoimmune disease in which autoreactive T cells specific for myelin-associated antigens are thought to play a role in pathogenesis. Assessment of antigen-specific tolerance in multiple sclerosis will require reliable assays to detect and phenotype T cell responses to myelin-associated antigens in a clinical trial setting. To this end, the ITN is seeking assays for assessing functional tolerance and biomarkers of tolerance in antigen-specific CD4 and CD8 effector and regulatory T cells. The ideal mechanistic assay for T cell tolerance to myelin-associated antigens will meet the following criteria:

1. Identifies and enumerates T cells specific for myelin-associated antigens, and distinguishes them from bystanders.
2. Demonstrates functional tolerance or biomarkers of tolerance in the CD4 and CD8 effector and regulatory T cells specific for myelin-associated antigens.
3. Reliably reproduces results using the same frozen cells tested on different days.
4. Enables analysis of a large number of clinical trial samples in a reasonable time frame.

Assay Evaluation

Please address each question below for the proposed assay and submit this form and supporting documents to Fred Karnell at fkarnell@immunetolerance.org by 2/13, 2015. ITN will conduct a review of proposals prior to 3/1, 2015.

1. Does the assay identify & enumerate CD4 and CD8 effector and regulatory T cells specific for myelin-associated antigens? How are myelin-associated antigen-specific T cells distinguished from bystanders?
2. How is tolerance in the myelin-associated antigen-specific T cell population defined? Which biomarkers of tolerance are utilized to confirm tolerance?
3. What technologies are required for this assay?
4. Are results from frozen cells consistent and reproducible? How many cells are required for analysis?
5. What is the assay throughput? Approximately, how much time will it take to test 100 clinical specimens, for example?

For any supporting data you send, please include details such as subject disease status, sample size, assay controls, cell source, number of times the same end result was reproduced, and statistical considerations.

Please note the number of supporting documents/files, if any, that you have submitted with this questionnaire:



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Investigator Name: _____

Email _____ Phone _____

Signature: _____ Date: _____

SEND TO: Fred Karnell at fkarnell@immunetolerance.org