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Upcoming Events:

- AAPS National Biotechnology Conference San Diego, CA May 1-3, 2017
- ISAC CYTO2017, Boston, MA June 11-15, 2017



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Validation of Flow Cytometry Methods for use with Engrafted or Surrogate Humanized Mouse Specimens

By: Jennifer J Stewart, Khushbu Komal, Sonal Suhane, Rubina Pal and Lynette Brown

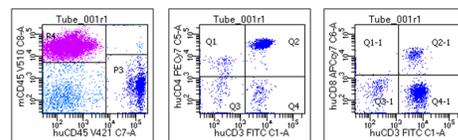
Mice engrafted with functional human cells i.e. humanized mice can provide a robust platform for *in vivo* investigation of the effectiveness of potential new drugs for modulating the immune system. However, there can be limitations in the availability of humanized mice samples by analytical laboratories that do not have vivariums, but will be performing assay qualification/validation. To address this, we tested mouse whole blood that has been mixed with human cells as a surrogate for humanized mouse specimens for validation of the flow cytometry methods.

Whole blood specimens from three humanized mice (The Jackson Laboratory) were compared to whole blood specimens from three normal mice (Bioreclamation) mixed with equal volume of human whole blood from normal donors. Expression of anti-human CD3, anti-human CD4, anti-human CD8, anti-human CD16, anti-human CD45 and anti-mouse CD45 were evaluated by flow cytometry analysis on a BD FACSCanto™ II equipped with BD FACSDiva™ software.

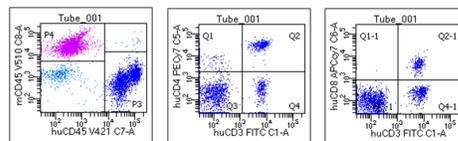
The results show that both models were able to differentiate human and mouse immune cell expression. This demonstrated the potential benefit of using mouse blood "spiked" with hu-

man control cells, such as CD-Chex Plus®, to mimic engrafted humanized mouse specimens for assay development, antibody titration, sample stability assessments, and optimization of flow cytometry staining protocol prior to testing the actual humanized mouse specimens.

Spiked specimens



Humanized specimens



Lymphocytes T-helper Cells Cytotoxic T-cells

Figure: Representative cytograms of T-cell populations from both surrogate "spiked" control specimens and humanized specimens. Both specimen types showed classical T-lymphocyte profiles with similar population characteristics and anti-human antibody staining intensity.

FCS Laboratory June 2017 Updates

Jennifer Stewart will be representing FCSL at the ISAC CYTO2017 meeting in Boston, MA. Please join her at Workshop #6 Sunday, June 10th from 3:30-5:30 pm, and at Poster #422 on Tuesday June 13th from 3:15-4:45 pm. Poster #422 will feature the work presented in the original article of this newsletter.

Fun in Washington State

June Events

- Marysville Strawberry Festival June 10-17th 2017
www.maryfest.org
- Crave, NW June 15-18th 2017
www.cravenw.com
- Gorge Blues and Brews June 23-24h 2017
www.gorgebluesandbrews.com