Abstract

Purpose: Th17 related cytokines mediate distinct mechanisms in various infectious and allergic diseases. Th17-related cytokines and chemokines are key mediators of immune responses. IL-17A/F, IL-17E/IL-25, IL-21, IL-22, IL-23, IL-27, IL-29/IFN-α, IL-31, IL-33, TSLP, IL-17A, CTACK (CCL27), GM-CSF, and MDC (CCL22) are the most widely studied Th17-related cytokines.

Methods: Th17 cytokines were measured in 100-pL whole serum samples using a U-PLEX platform. The U-PLEX platform can be multiplexed with other cytokine technologies, enabling multiplexing at a single-use level, using smaller sample volumes.

Results: Measurements were made with the U-PLEX platform. Various samples were analyzed using multiple dilutions and controls. The U-PLEX platform was validated using multiple dilutions and controls.

Conclusions: The U-PLEX platform can be multiplexed with other cytokine technologies, enabling multiplexing at a single-use level, using smaller sample volumes.

Conclusion

The U-PLEX platform enables the rapid design and building of multiplex biomarker panels on the existing MSD platform in a few days. Developed and validated with data from 10 Th17 cytokine human biologics, the automated readout and processing precision and recovery with and between assays.

Native Sample Testing

The U-PLEX platform was developed and validated with data from 10 Th17 cytokine human biologics. The automated readout and processing precision and recovery with and between assays.

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Calibration Curves and Limits of Detection

The following figure shows typical calibration curves for 10 Th17 cytokine U-PLEX assays. Up to ten curves can be obtained per plate using a U-PLEX platform.

Spike Recovery

The present recovery for each of the assays was within the standard range (95-105%). The 0.03 recovery was due to low levels of recovery at high levels. The recovery was due to a lack of signal from the capture antibody. The recovery was due to a lack of signal from the capture antibody.

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Sample Correlation with Singleplex Assay (Small Spot Streptavidin Platform)

Two human serum samples were tested with both UC-PLEX and MSD Th17 Platform. The UC-PLEX platform was used as the reference standard in order to evaluate the correlation in protein values between the two assays. The results showed good correlation between the multiplex and singleplex assay.

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