

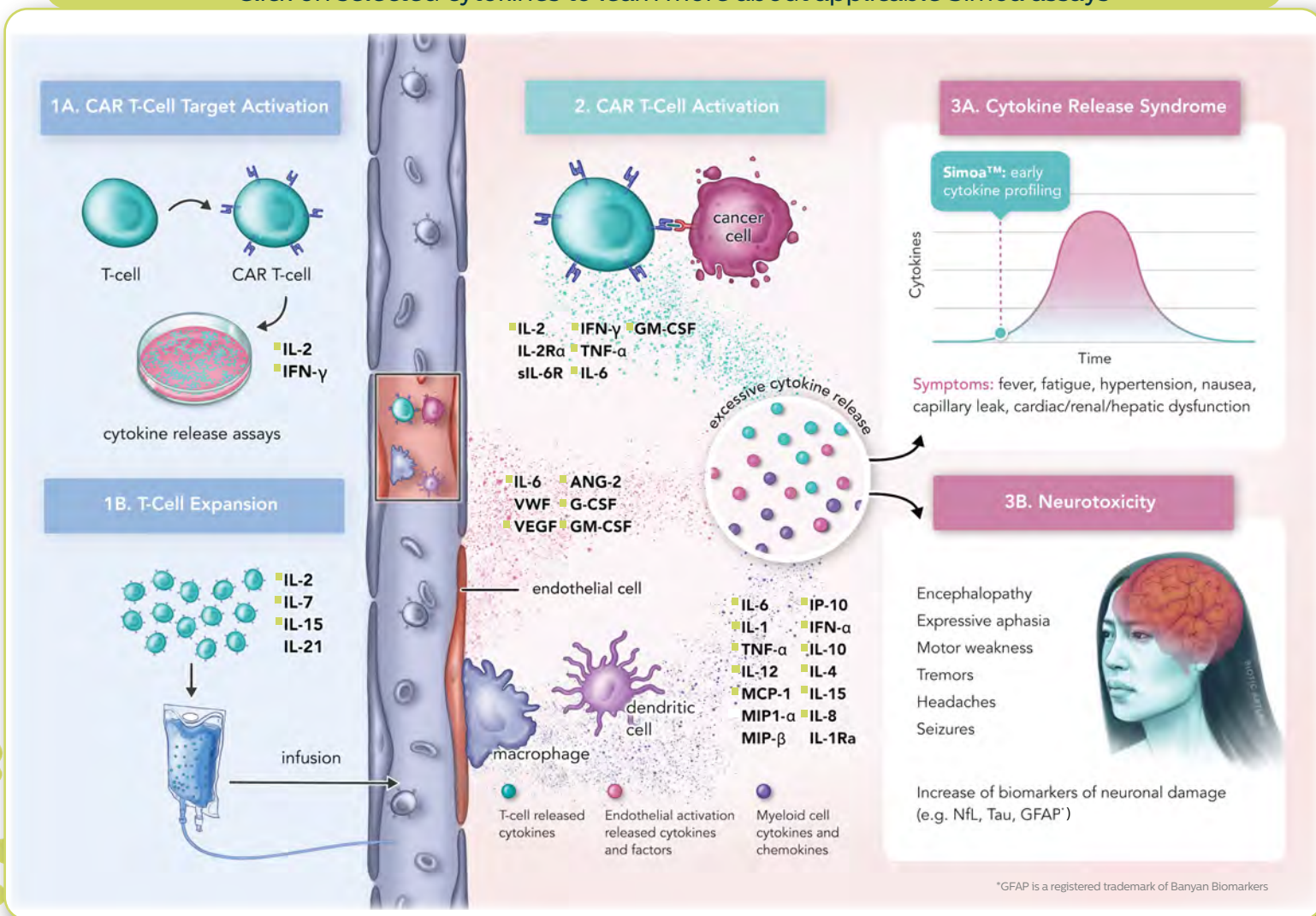
Safety and Efficacy of Adoptive Cell Therapies with Simoa® Cytokine Assays

Introduction

The use of adoptive cell therapy and CAR-T cell therapy has revolutionized cancer treatment, with high rates of remission in hematologic malignancies, for example. Unfortunately, cytokine release syndrome and neurotoxicity occurs in up to 90% and 60% of patients, respectively, and depending on the severity grade, may cause life-threatening toxicities.

CAR-T CELL THERAPY

Click on selected cytokines to learn more about applicable Simoa assays



Simoa for Early Cytokine Profiling

Elevation of cytokines and chemokines are associated with an efficient activation and expansion of CAR-T cells after infusion. On the other hand, excessive T-cell activation may also be linked with cytokine release syndrome and neurotoxicity. Monitoring and predicting the fine balance between efficient immune activation and immunotoxicity demands accurate methods of biomarker measurements. Our ultra-sensitive Simoa technologies enable healthy baseline quantification of cytokines, and therefore recognition of sub-inflammation and also early elevation of cytokine profiles.

Assessing Neurotoxicity

Our expertise in neurology biomarkers also make the Simoa platforms suitable to monitor extent of neurotoxicity by measuring the extensively validated and established neuronal injury and neuroinflammation biomarkers, such as Neurofilament Light and GFAP*. See how our platforms complement each other to ensure safe and efficacious adoptive cell therapy of subjects in clinical trials below.

Simoa research applications for monitoring immune response and neurological side effects

► **REVIEW SIMOA ONCOLOGY PUBLICATIONS**

► **REVIEW SIMOA INFLAMMATION PUBLICATIONS**

Simoa Planar Array and Bead technologies for monitoring CAR-T cell safety and efficacy

The SP-X and Planar Array Assays

Ultra-sensitive cytokine profiling for broad monitoring of CAR-T cell activation and risk of cytokine release syndrome

- **Corplex™ Human Cytokine Panel 1**
(IFN- γ , IL-1 β , IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p70, IL-22, TNF α)
- **Human Angiogenesis Panel 1**
(ANG-2, FGFB, HB-EGF, HGF, PLGF, VEGF, VEGF-C)
- **Human Chemokine Panel 1** (IP-10, ITAC, MCP-1, MIP-3B)
- **Homebrew** for in-house custom assay development



The HD-X, SR-X, and Bead-based Assays

Ultra-sensitive Assays to monitor neurotoxicity and individual or low plex inflammatory biomarkers

- **Simoa Advantage Kits:**
IL-2, IL-7, IL-15, IFN- α , GM-CSF, G-CSF, Nf-Light™, GFAP*, Tau
- **Neurology 4-Plex A** (Nf-L, TAU, GFAP*, UCHL-1*)
- **Homebrew** for in-house custom assay development



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For more information,
contact us at sales@quanterix.com

Quanterix
900 Middlesex Turnpike, Billerica, MA 01821 USA