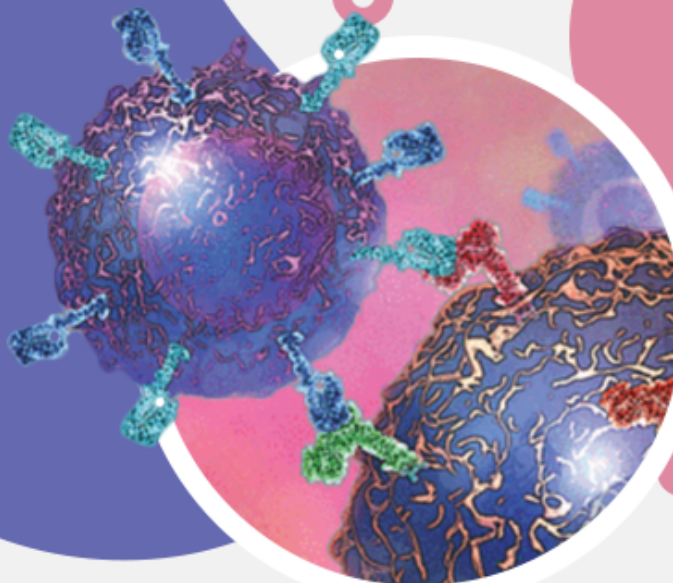


CAR-T Cell *In Vitro* Assay Services

Explore Best-in-class CAR-T Cells for Research and Immunotherapy

www.creative-biolabs.com/car-t



With unrivaled expertise and experience in immunotherapy discovery and development, **Creative Biolabs** has independently developed a novel CellRapeutics™ platform to support our clients' cellular therapy associated research. We offer CAR cell *in vitro* assay services to best suit your program requirements.

Background

Adoptive T cell therapy (ACT) is a cancer immunotherapy that consists of isolating, expanding, and functionally verifying patient T cells prior to delivering them back into the patient. The use of chimeric antigen receptors (CARs) is a strategy within ACT that directs T cells specifically to cancer cells by targeting tumor-associated antigens. However, before moving this 'living drug' CAR-T cells into the clinics, CAR-T cells need to be developed, optimized, and validated in a preclinical setting by small-scale benchtop experiments.

To facilitate your CAR-T cell research, Creative Biolabs offers a reliable CAR-T cell *in vitro* assay workflow (Fig.1). The workflow includes T cell preparation (isolation of donor T cells followed by efficient activation, or T cell line preparation), gene transfer of the CAR construct, CAR-T cell expansion, as well as the phenotyping and analysis of the final cell product.

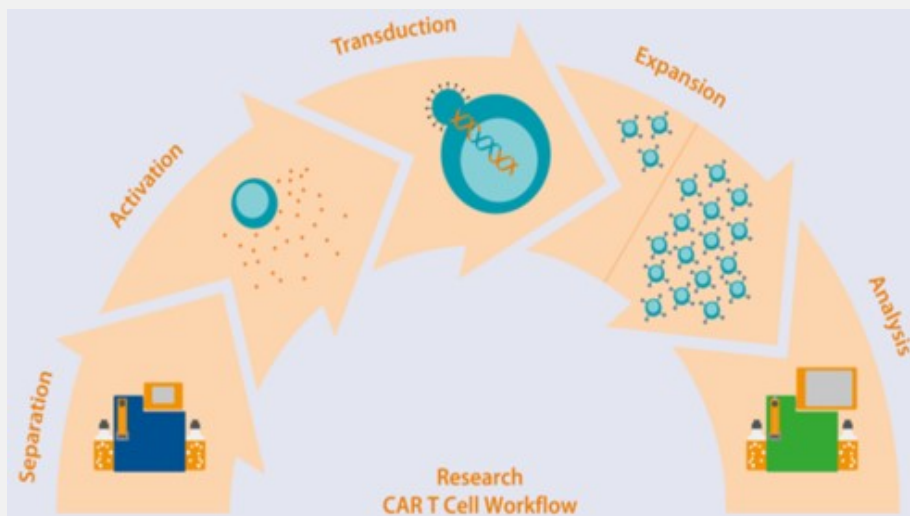


Fig.1 CAR T cell *in vitro* assay workflow.

Our CAR Cell *In Vitro* Assay Service

With years of experience and advanced platforms, Creative Biolabs offers high-quality, one-stop CAR-T development services to help our clients explore best-in-class CAR-T cells and facilitate CAR-T cell research and therapy

development. We are dedicated to custom CAR-T cell development services, including designing and operating a full range of validation assay services according to your T cells engineered objective.

Our provided *in vitro* services include the followings, but are not limited to:

[CAR Expression Test](#)

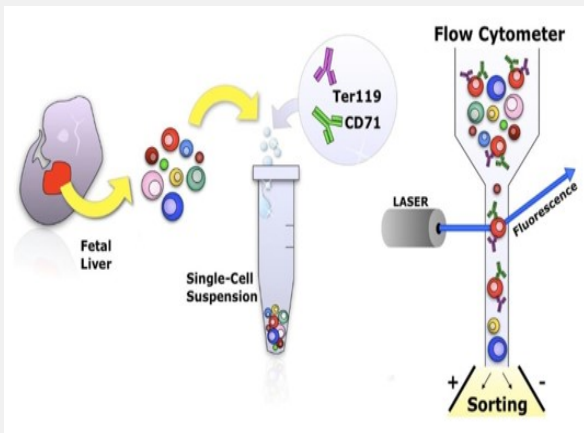


Fig.2 A schematic representation of flow cytometry in CAR expression test.

[Antigen Specific T Cell Activation Assay](#)

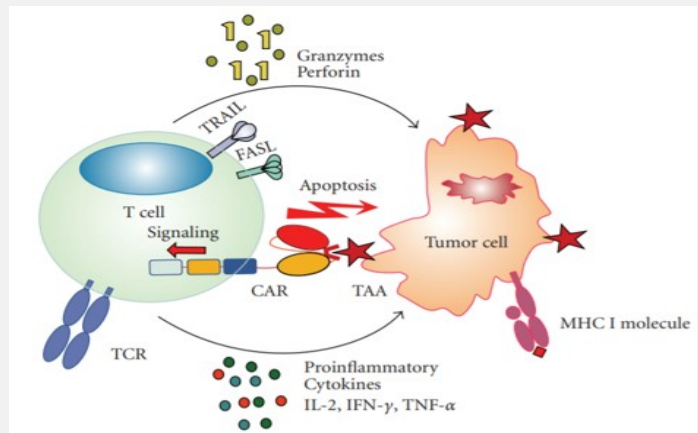


Fig.3 Antitumor effects mediated by CAR-engrafted T cells.

[CellRapeutics™ Multiplex Cytokine and Chemokine Assay](#)

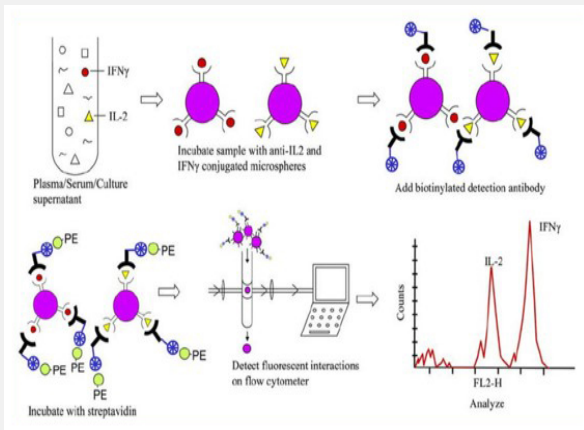


Fig.4 A schematic representation of a bead-based array.

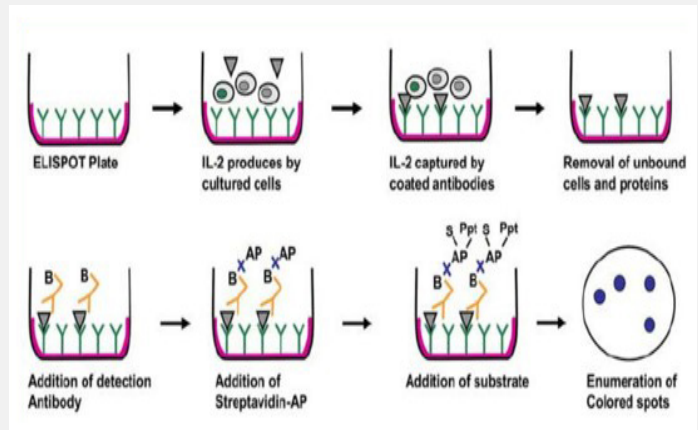


Fig.5 A schematic representation of a solid-platform array.

[In Vitro Cytotoxicity Test](#)

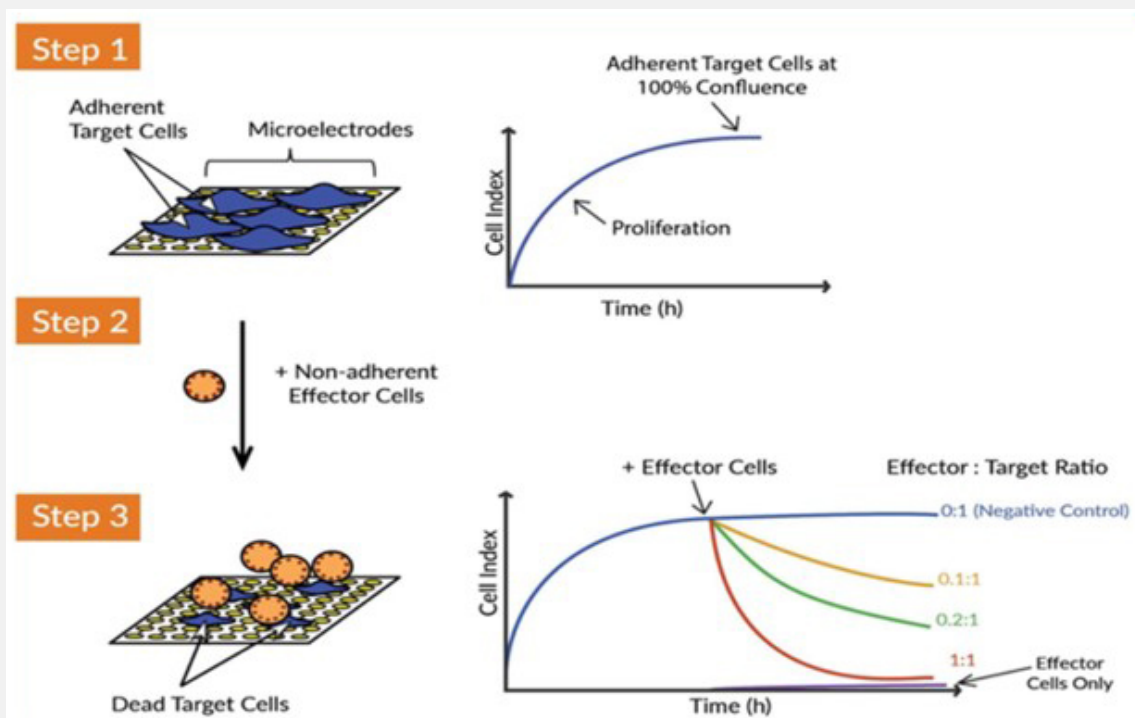


Fig.6 Principle of immunotherapy cytotoxicity monitoring.

Other Services

CAR Cell Proliferation Test	Efficacy Test	Viability and Bio-distribution Analysis
Single Cell Analysis for CAR-T Cell	CellRapeutics™ Phagocytosis Assay	Mixed Lymphocyte Tumor Reactivity Assay
Macrophage Polarization Assay	Cytokine Release Test	MHC-associated Peptide Proteomics (MAPPS) Assay
Flow Cytometry Application in CAR-T System	Enhancement or Inhibition of T Cell Response Assays	T Cell-mediated Tumor Cell Lysis Assay

In addition, we provide versatile testing assay kits to facilitate your CAR-T *in vitro* assays in your own lab. If you have any specific assay requirements, please contact us for assistance.

T Cell Culture & Isolation Kits	NK Culture & Isolation Kits	CAR Expression Test Kits
Cytokine Release Test Kits	Proliferation Test Kits	CAR Virus Packaging Kits

Creative Biolabs will accommodate the properties of your cellular therapy product and offer the most valuable one-stop CAR-T cell development solutions to maximize your success.

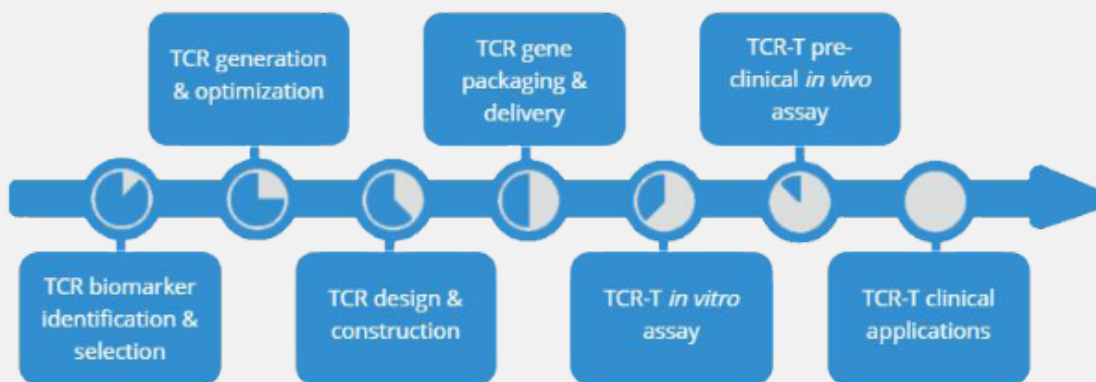


Fig.7 One-stop CAR-T cell development service.

References:

- Cartellieri M, *et al.* J Biomed Biotechnol. 2010.
Newick K, O'Brien S, *et al.* Annu Rev Med. 2017 Jan 14;68:139-152.
Biao Xi, Berahovich R *et al.* J Vis Exp. 2019 Nov 12;(153).

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