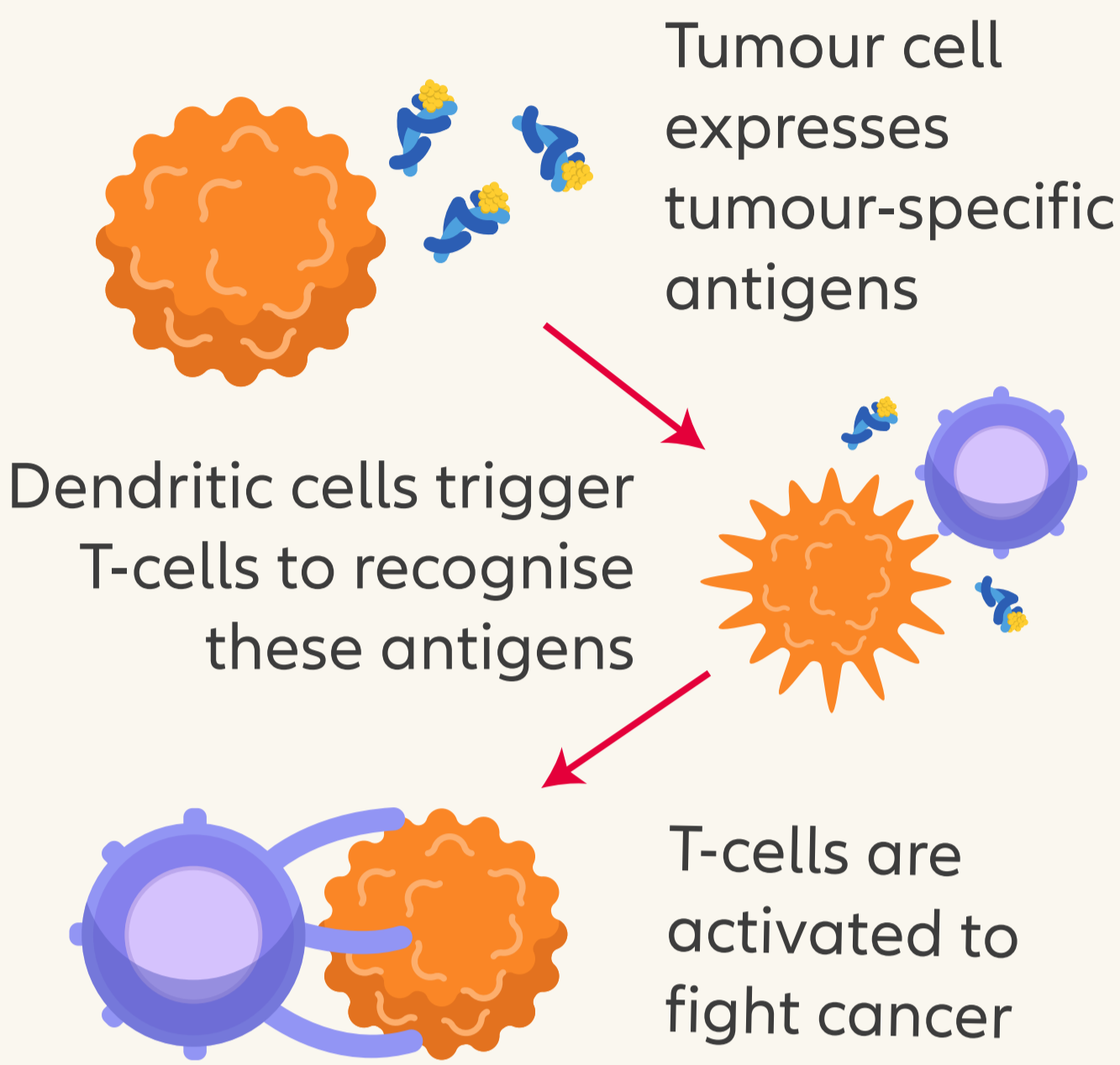


# How your immune system FIGHTS CANCER



## HOW IT WORKS



## GLOSSARY

### Antigen

Any substance that causes the body to make an immune response against that substance.

### Dendritic Cell

A special type of immune cell that boosts immune responses by showing antigens on its surface to other cells of the immune system.

### Chimeric Antigen Receptor (CAR) T-cell Therapy

A type of treatment in which a patient's T-cells (a type of immune system cell) are changed in the laboratory so they will attack cancer cells.

## EVOLUTION OF IMMUNOTHERAPY

1970s

1990s

- Monoclonal Antibodies
- Checkpoint Inhibitors

## Prominent breakthrough in cancer immunotherapy

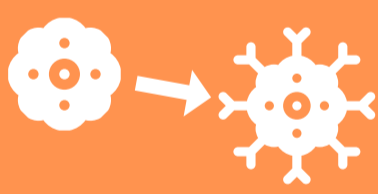


2000s

## Chimeric Antigen Receptor (CAR) T-cell Therapy



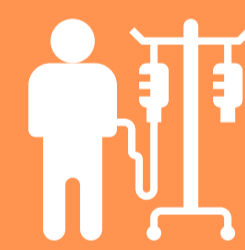
Extract T-cells from cancer patient's blood



Genetically modify T-cells into CAR T-cells in special labs



Millions of CAR T-cells are grown



CAR T-cells are infused into the patient



CAR T-cells bind to cancer cells and kill them

## PROS & CONS OF CAR T-CELL THERAPY

### PROS

- **Personalised treatment**
- Up to **94% remission rate** in clinical trials
- **Promising future**

### CONS

- **Lengthy & costly** development
- **Needs to be repeated** to ensure effectiveness (optimisation)
- Effective only in **limited types of cancer**
- **Unwanted conditions:** Neurotoxicity & Cytokine Storms



Source: 1. Labiotech.eu  
2. National Cancer Institute

Credits to Dr. Azura Rozila Ahmad,  
Consultant Medical Oncologist, Beacon Hospital

Cancer can happen to anyone.

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