

What is Immunotherapy?

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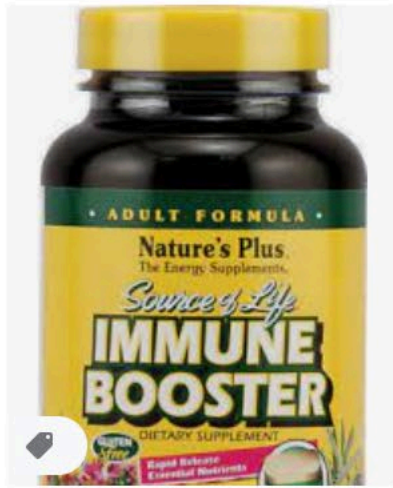
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What is immunotherapy?

- What are the most important things to know about the immune system regarding cancer immunotherapy?
- How does the immune system recognize cancer?
- How can immunotherapy help the immune system fight cancer better?

Is this immunotherapy?



Nature's Plus Source of...
dillons.com · In stock



Amazon.com: Doctor's ...
amazon.com



Walgreens Immune Booster G...
walgreens.com · Out of stock



UltraFlora® Immune Booster ...
metagenics.com



Immune Booster Supplement ...
gonutrients.com · In stock

Step back for a minute: How do we target cancer systemically?

Chemotherapy

TKI

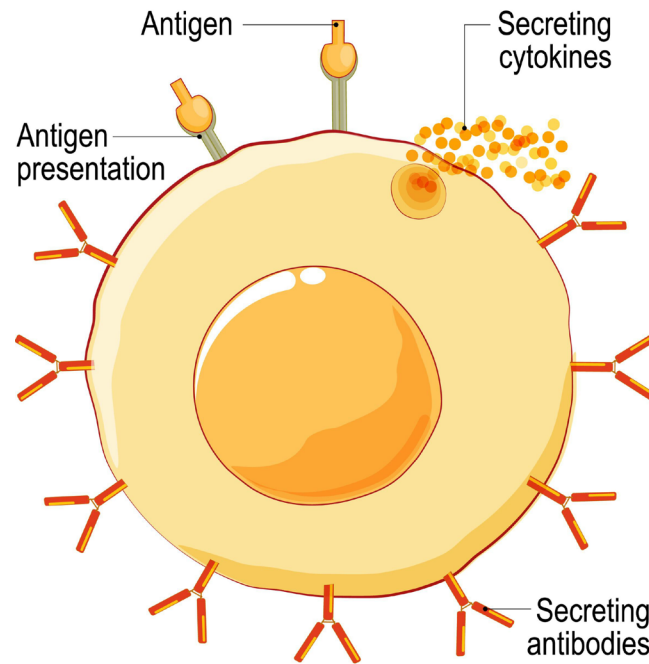
Metabolic Therapy

Molecularly
Targeted

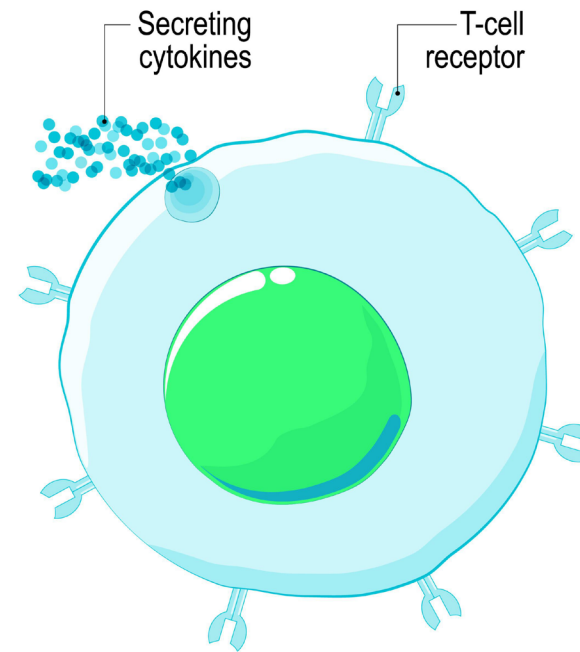
The key to oncology is separating normal self from tumor.

How Does The Immune System See Cancer?

Cells of the adaptive immune system



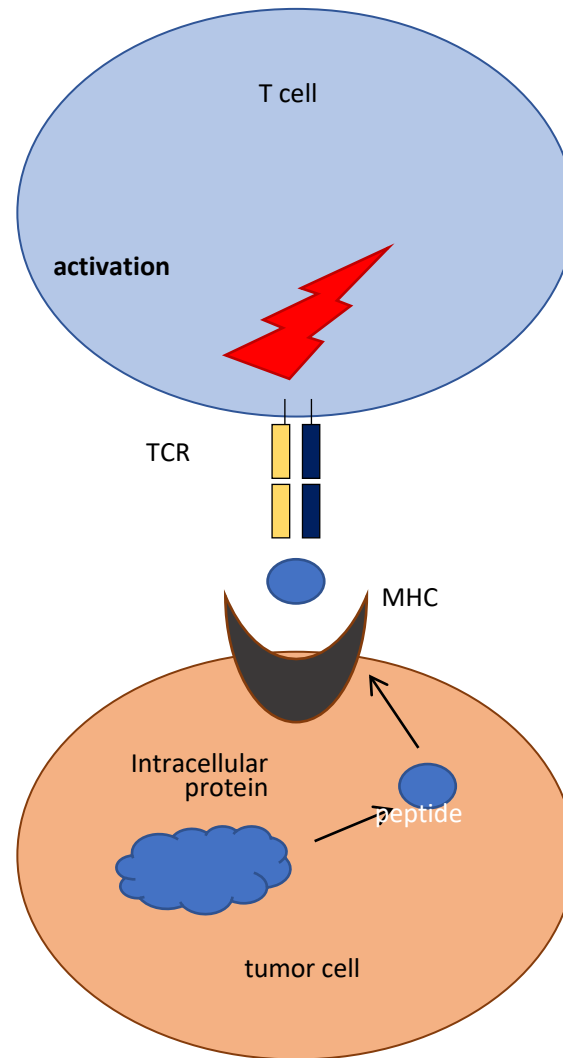
B-cell



T-cell

Question: Do we consider antibodies
“immunotherapy”?

T cells see inside the cell

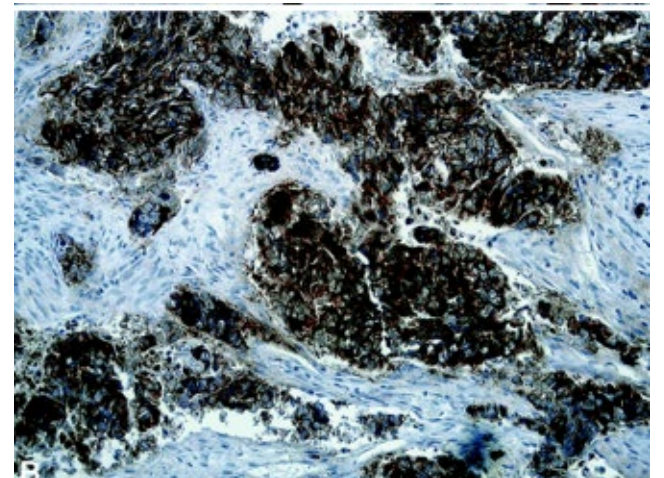
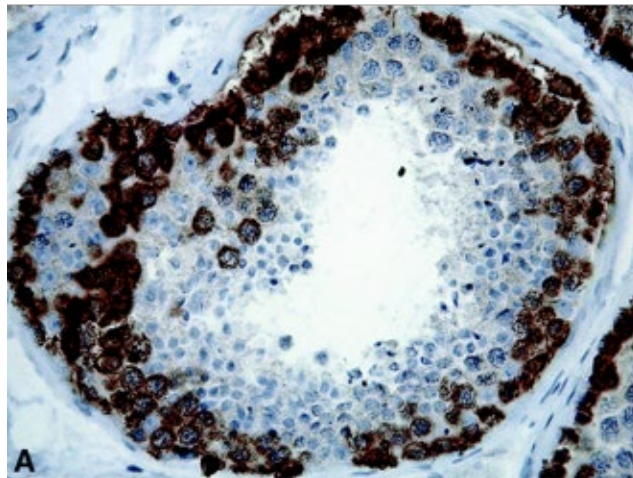


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How do T cells distinguish a cancer cell from a normal cell?

How do T cells distinguish a cancer cell from a healthy cell in the normal can immune response?

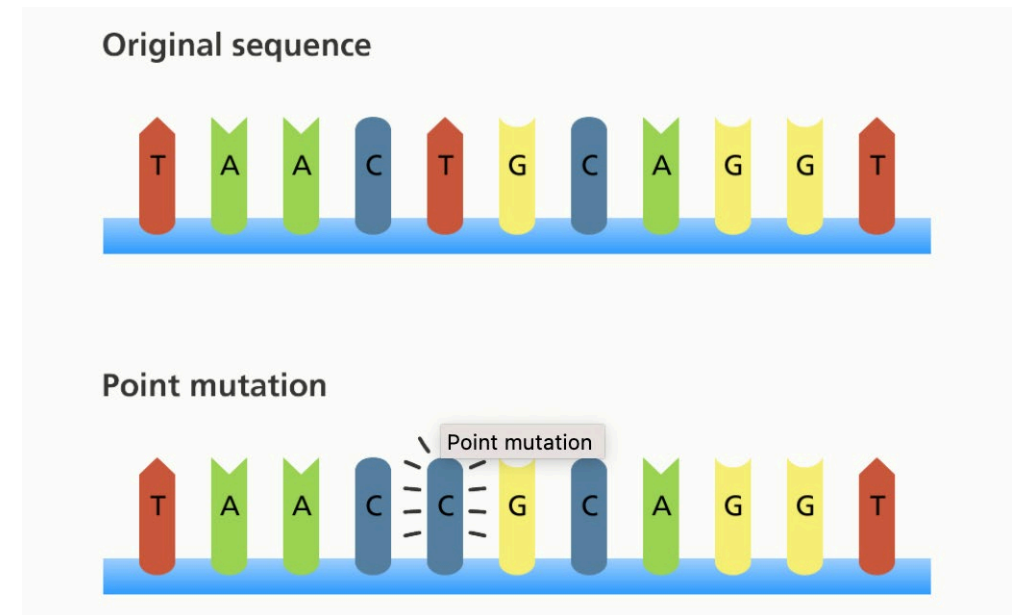
1. Abnormally expressed immunogenic proteins
2. Mutated proteins



How do T cells distinguish a cancer cell from a healthy cell in the normal can immune response?

1. Abnormally expressed immunogenic proteins

2. Mutated proteins



Taken from www.yourgenome.org

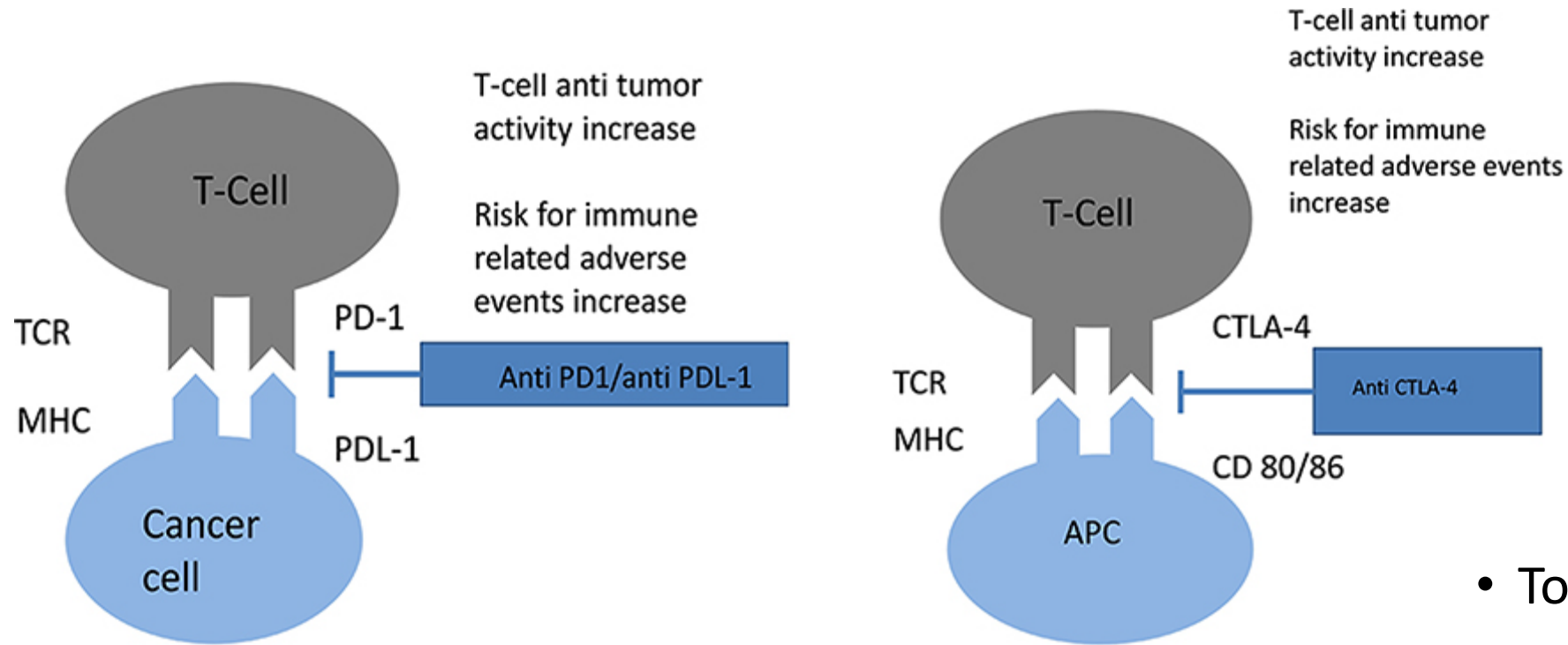
So, how do immunotherapies work?



The two basic ways immunotherapy works:

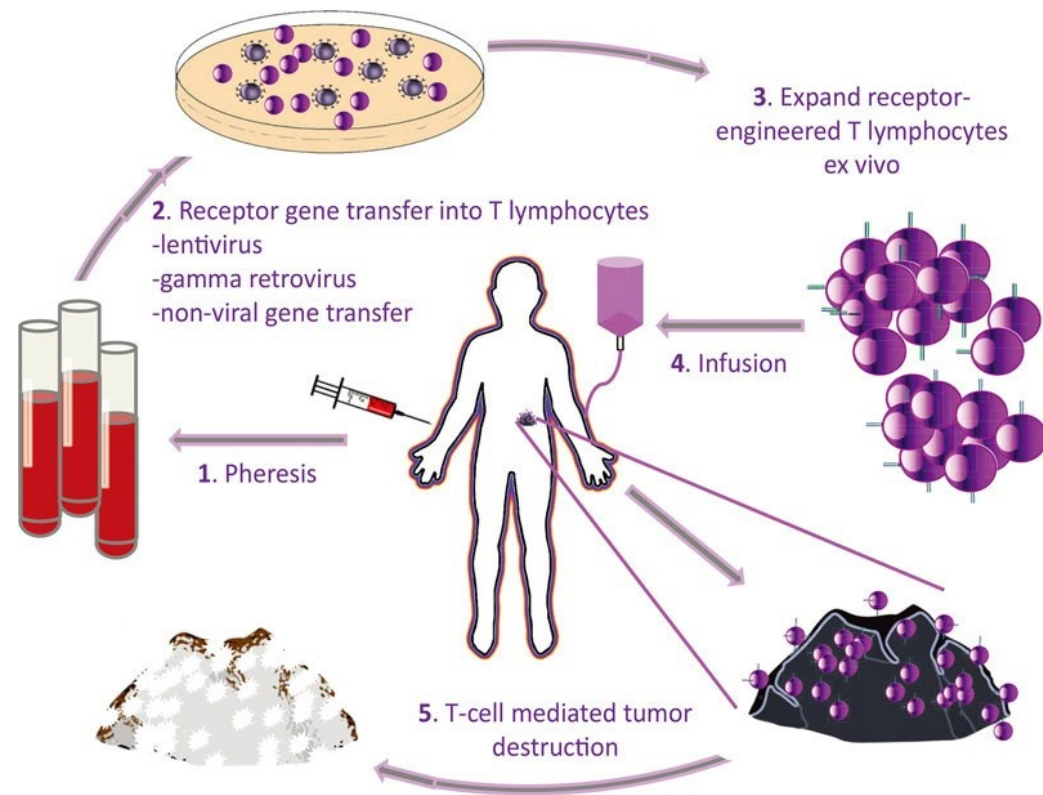
- 1) Strengthening an existing immune response
- 2) Redirecting the immune system

Strengthening an immune response: Checkpoint inhibitors



- Toxicities?
- Which sarcomas?
- Biomarkers?
- CTLA4?

Redirecting the immune system: Gene Engineered Cells For Immunotherapy



People are working on a variety of strategies for cancer immunotherapy

- Targeting inhibitory immune cells
- New checkpoints
- Vaccines
- NK cells
- Cytokines
- Integrating radiation and chemotherapy

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