

IMMUNE CHECKPOINT MOLECULE

2020/7/10

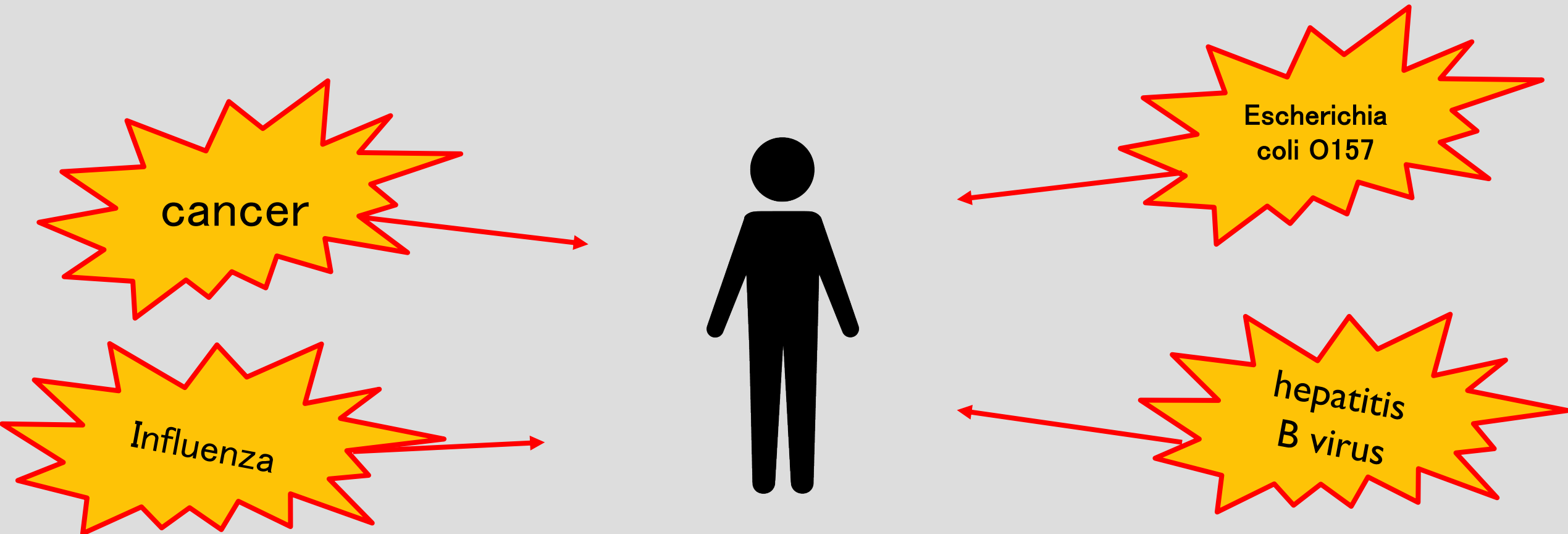
Arisa

ABSTRACTS

- What's immune?
- Introduction of immune checkpoint molecule
- PD-1, PD-L1
- What's Immune checkpoint inhibitor?
- Summary

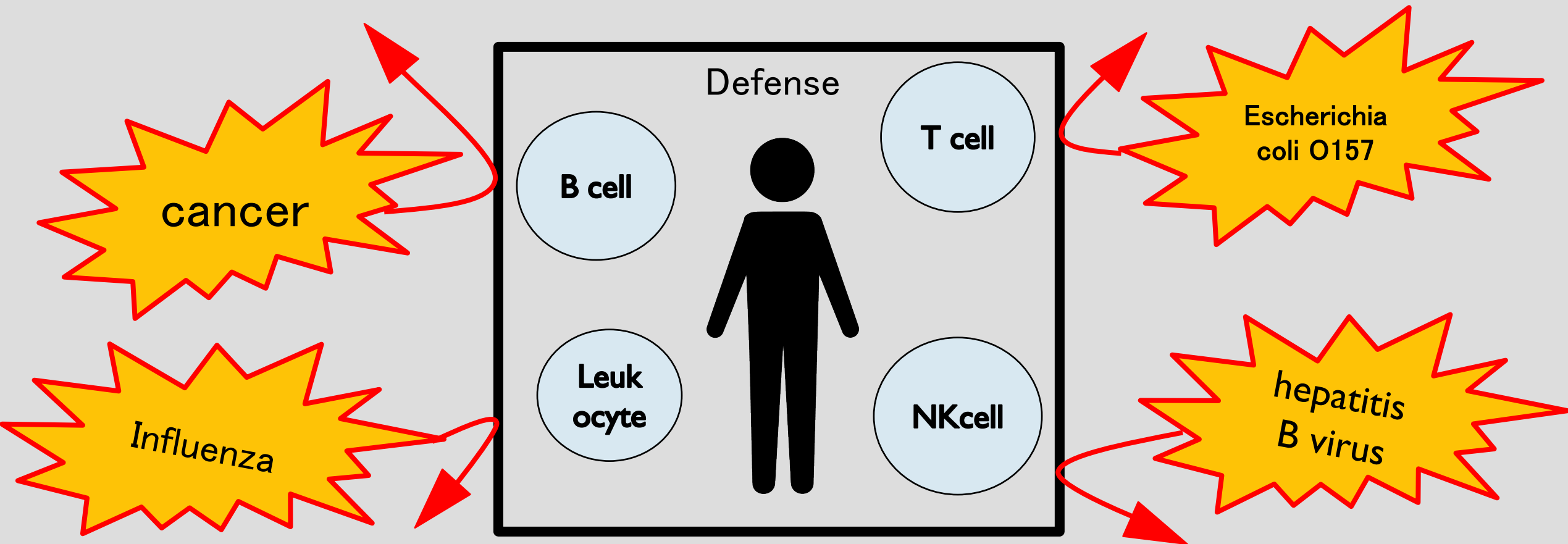
WHAT'S IMMUNE?

Your body is always in disease-threatening danger from outside or inside

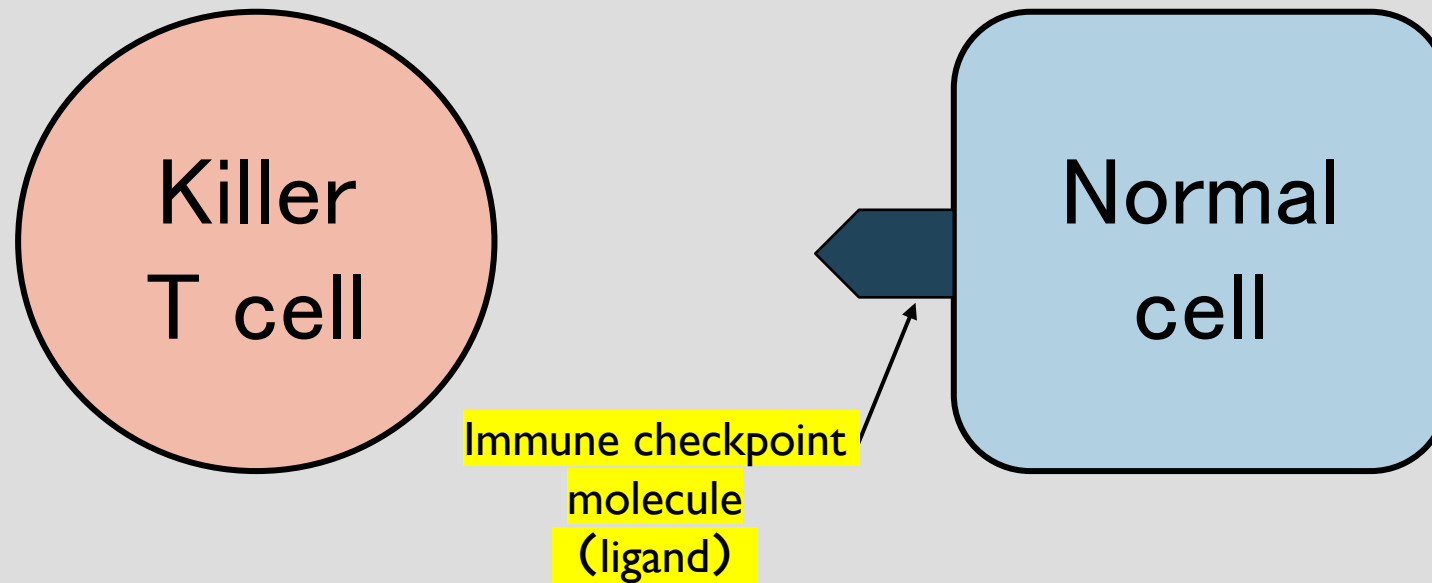


WHAT'S IMMUNE?

Immune is **defense mechanism**
to protect your body from pathogen and abnormal cells etc,,

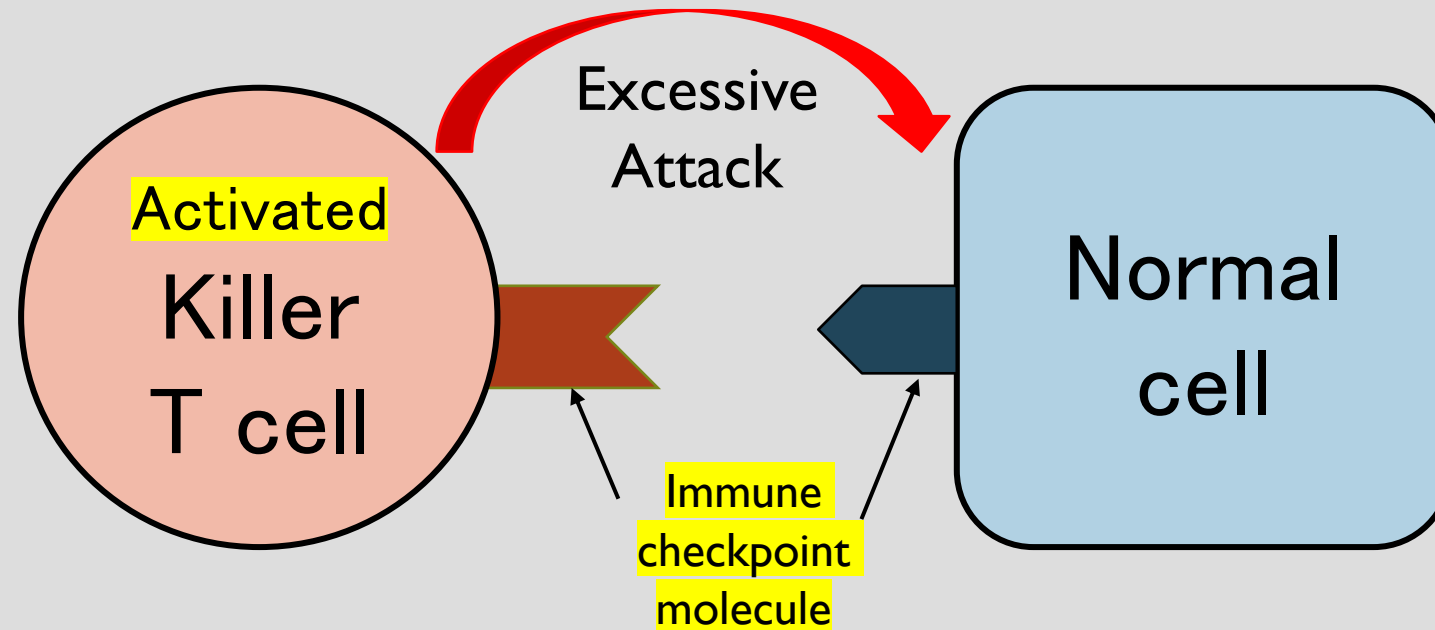


INTRODUCTION OF IMMUNE CHECKPOINT MOLECULE



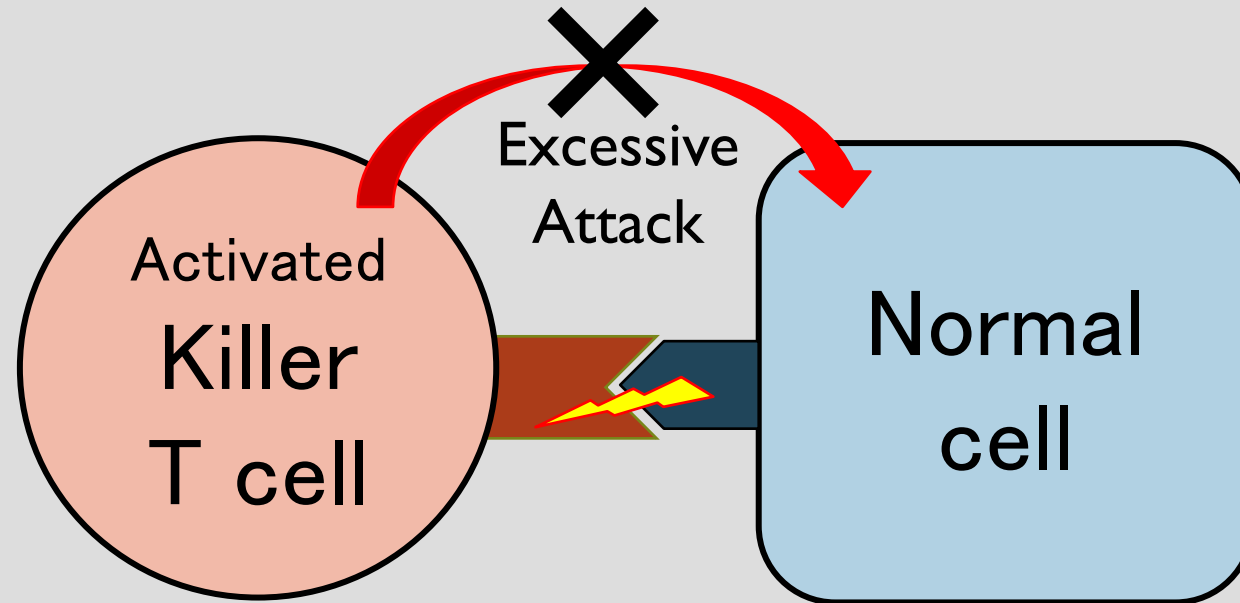
Normally, killer T cells don't attack the normal cells.
Normal cells always express immune checkpoint molecule.

INTRODUCTION OF IMMUNE CHECKPOINT MOLECULE



Normally, killer T cells attack the abnormal cells to kill them.
But, killer T cells attack the normal cells excessively by mistake.

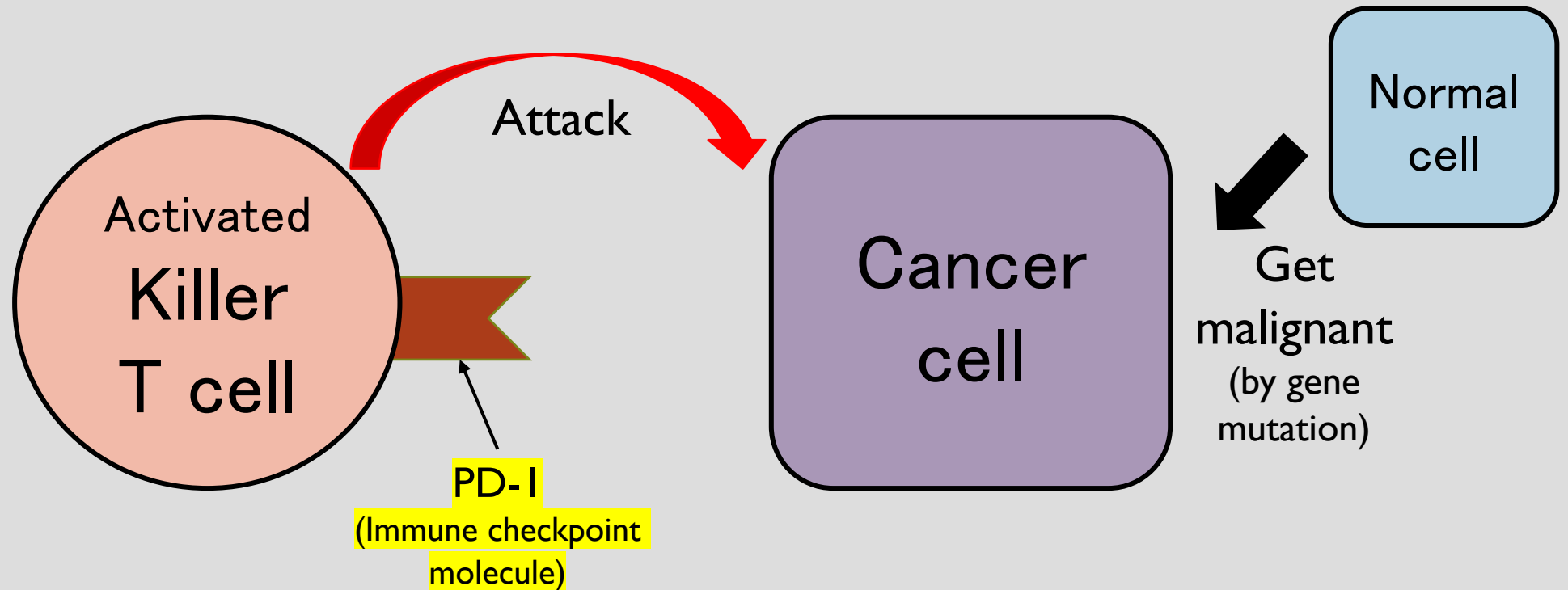
INTRODUCTION OF IMMUNE CHECKPOINT MOLECULE



Interaction of **Immune checkpoint molecules** prevent the normal cells from excessive attack of killer T cells

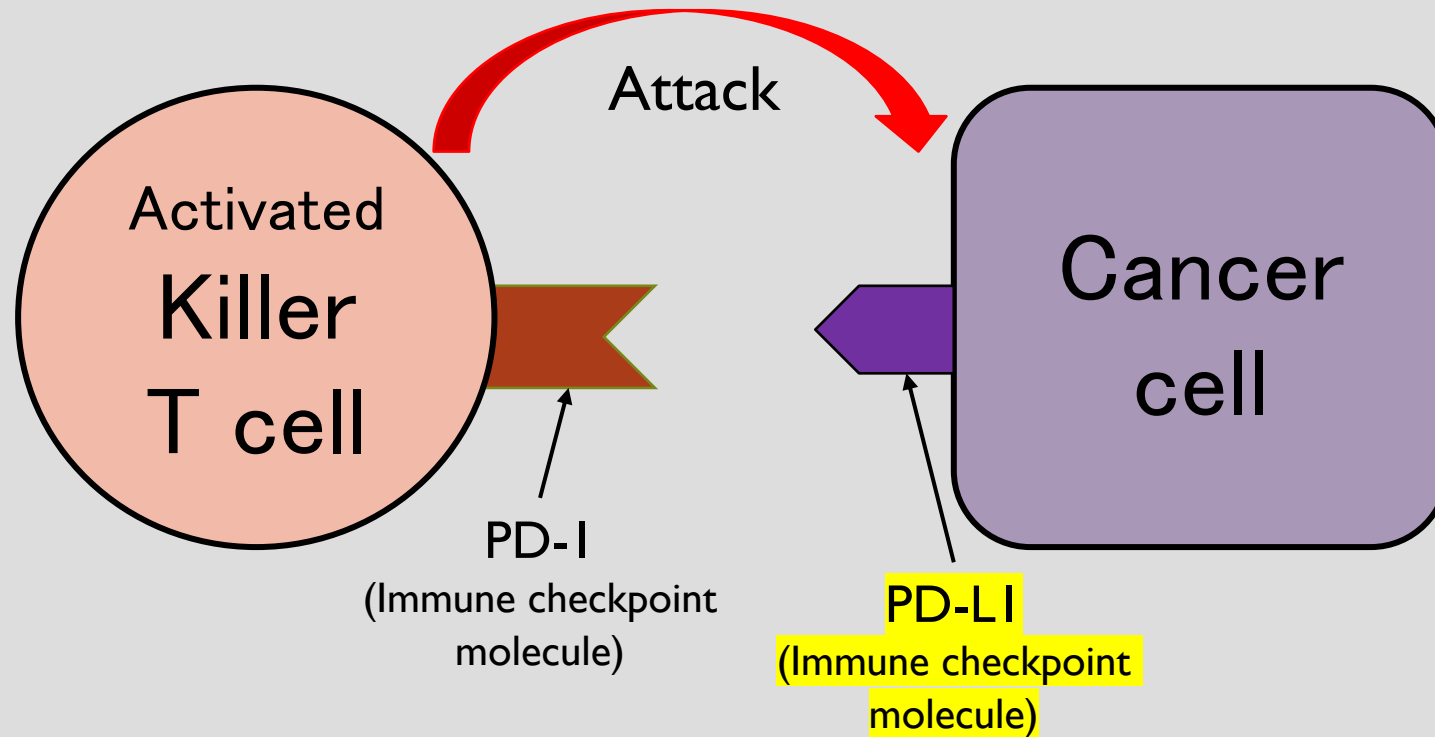
Immune checkpoint molecule can stop excessive attack

PD-1 & PD-L1



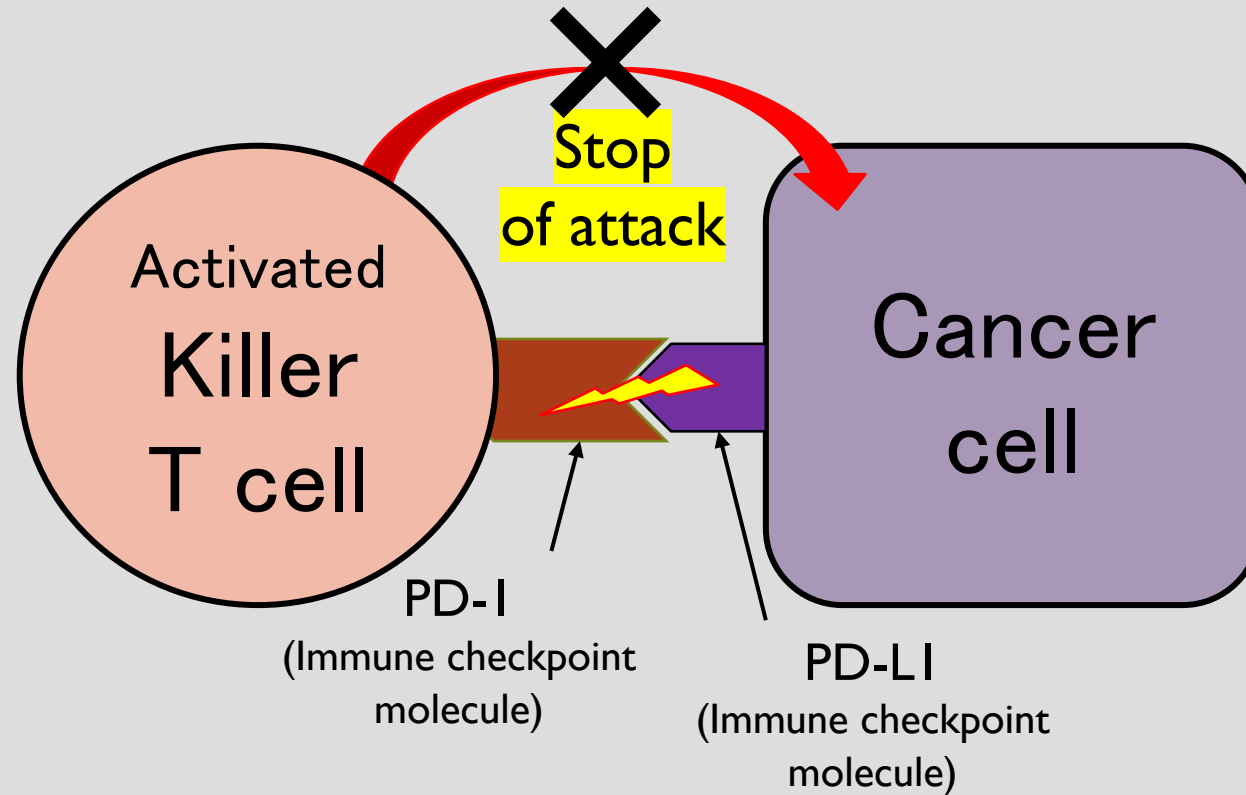
Killer T cells usually attack cancer (abnormal) cells to kill them and express PD-1 (programmed cell death protein 1)

PD-1 & PD-L1



Cancer cells sometimes express PD-L1 on the cell surface

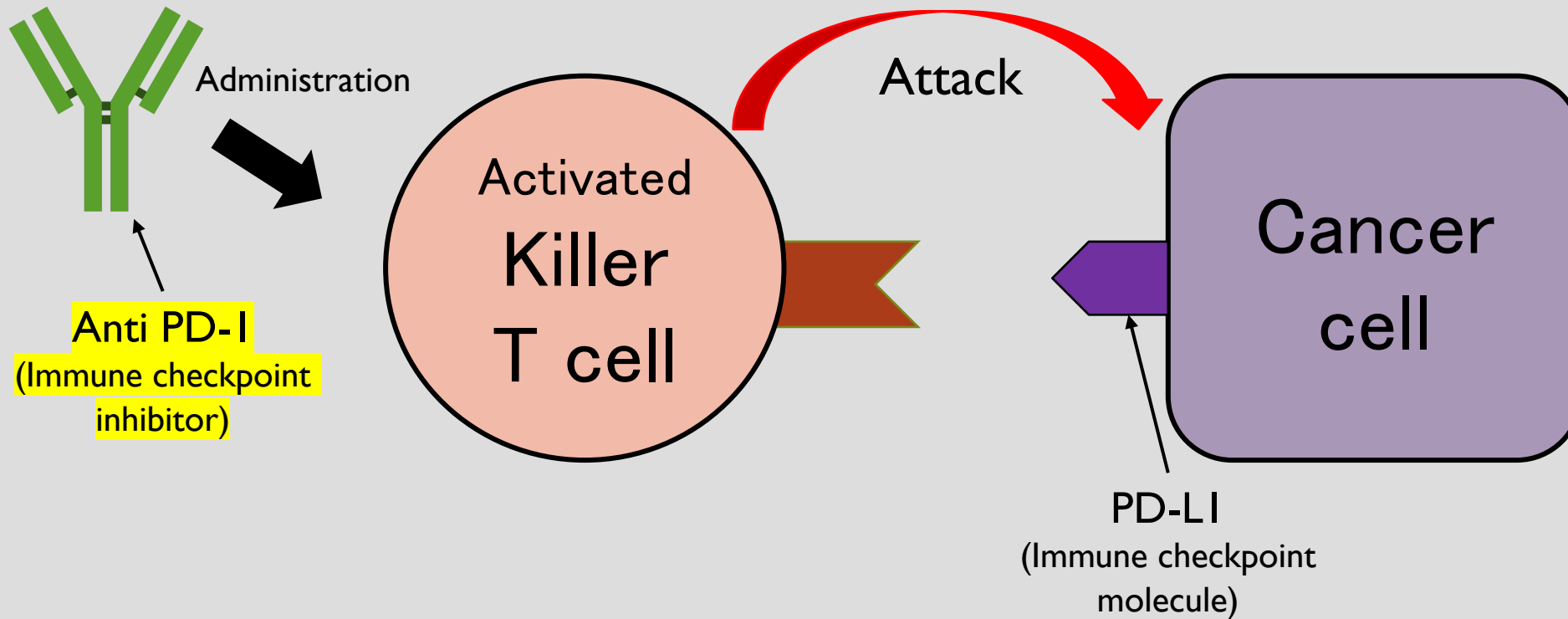
PD-1 & PD-L1



Binding of PD-1 and PD-L1 can stop the attack of killer T cells

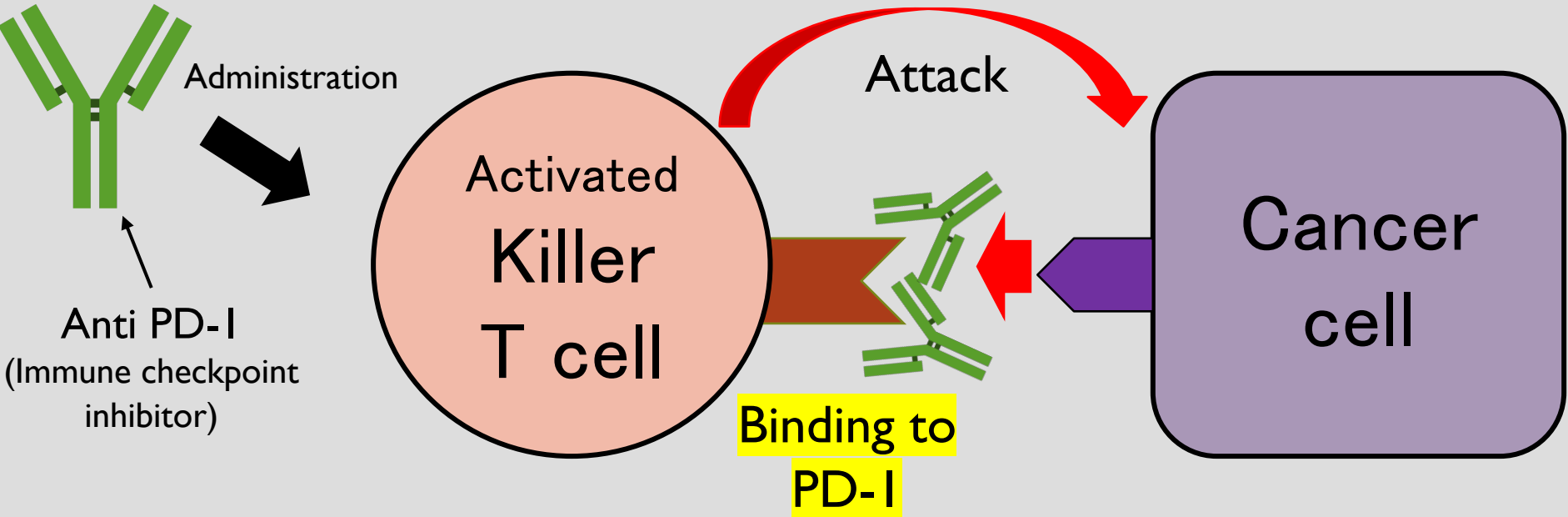
Killer T cells can't attack cancer cells

WHAT'S IMMUNE CHECKPOINT INHIBITOR?



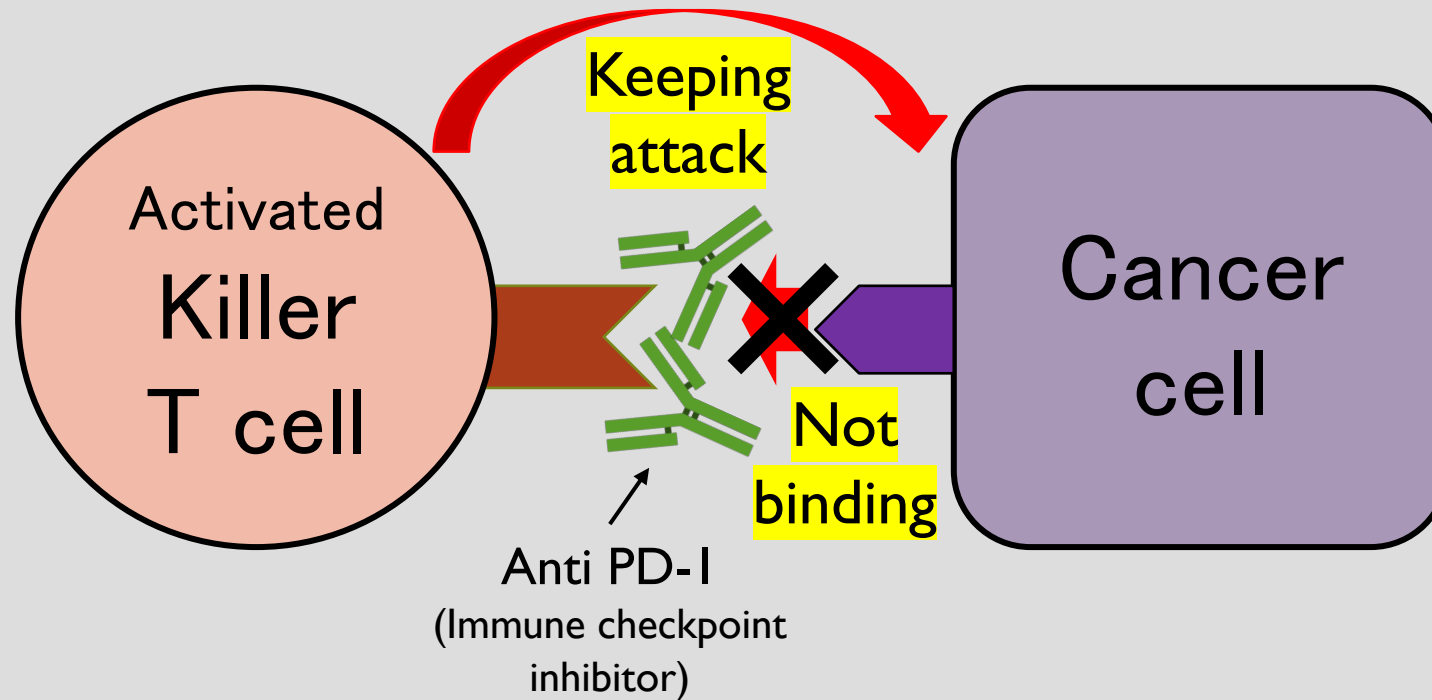
Anti PD-1 (nivolumab) is a novel medicine for cancer patients

WHAT'S IMMUNE CHECKPOINT INHIBITOR?



Anti PD-1 binds to PD-1 specifically

WHAT'S IMMUNE CHECKPOINT INHIBITOR?



Cancer cell can't transfer the suppressing-signal.



Killer T cells can keep to attack cancer cells

SUMMARY

- Immune is defense mechanism to protect your body
- Immune checkpoint molecules control immune response of killer T cell not to attack any cells excessively
- Interaction of PD-I and PD-LI prevent cancer cell from being attacked by killer T cell
- Immune checkpoint inhibitor can promote to kill cancer cell and enhance the efficiency of the treatment

THANK YOU FOR LISTENING !!