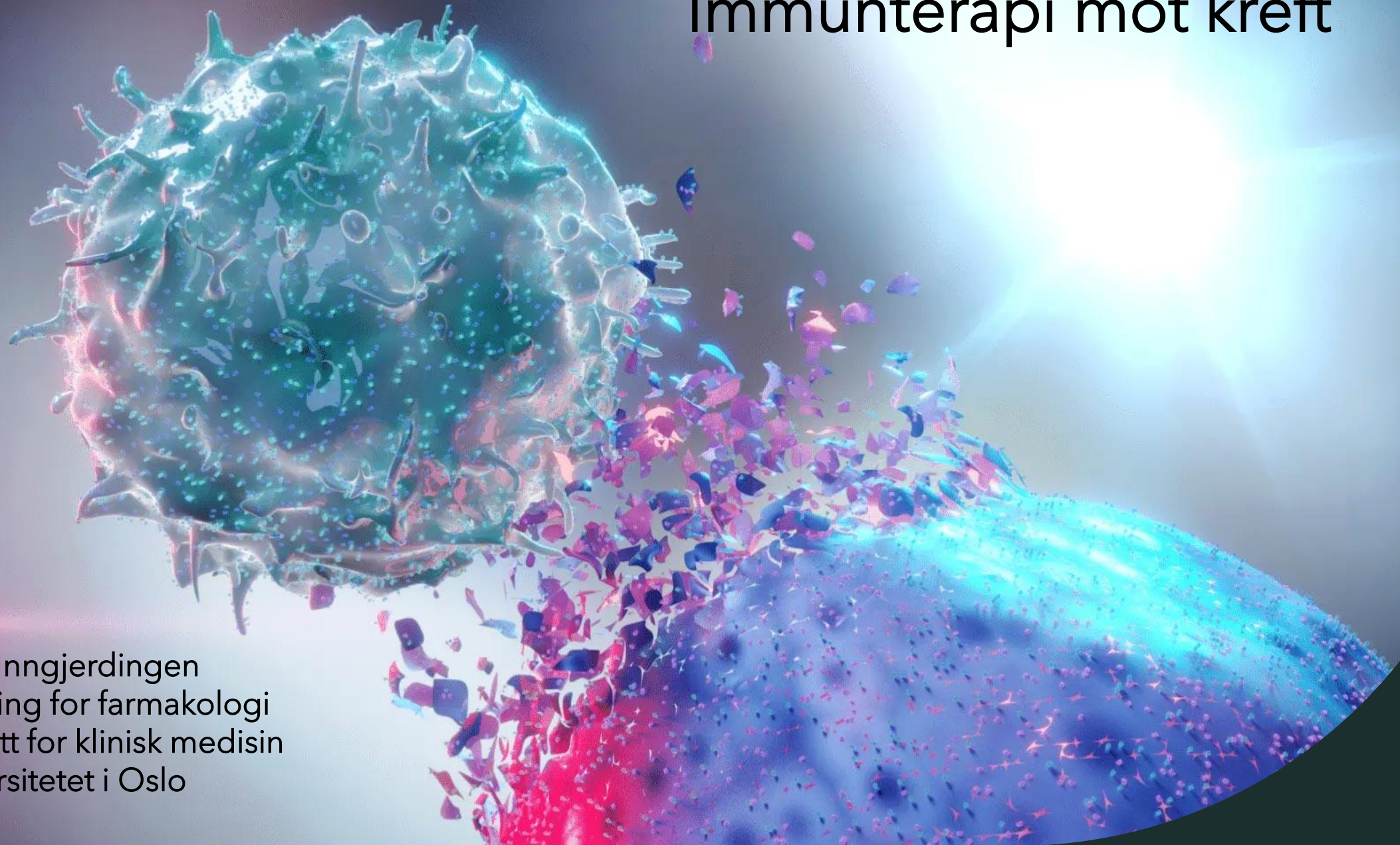


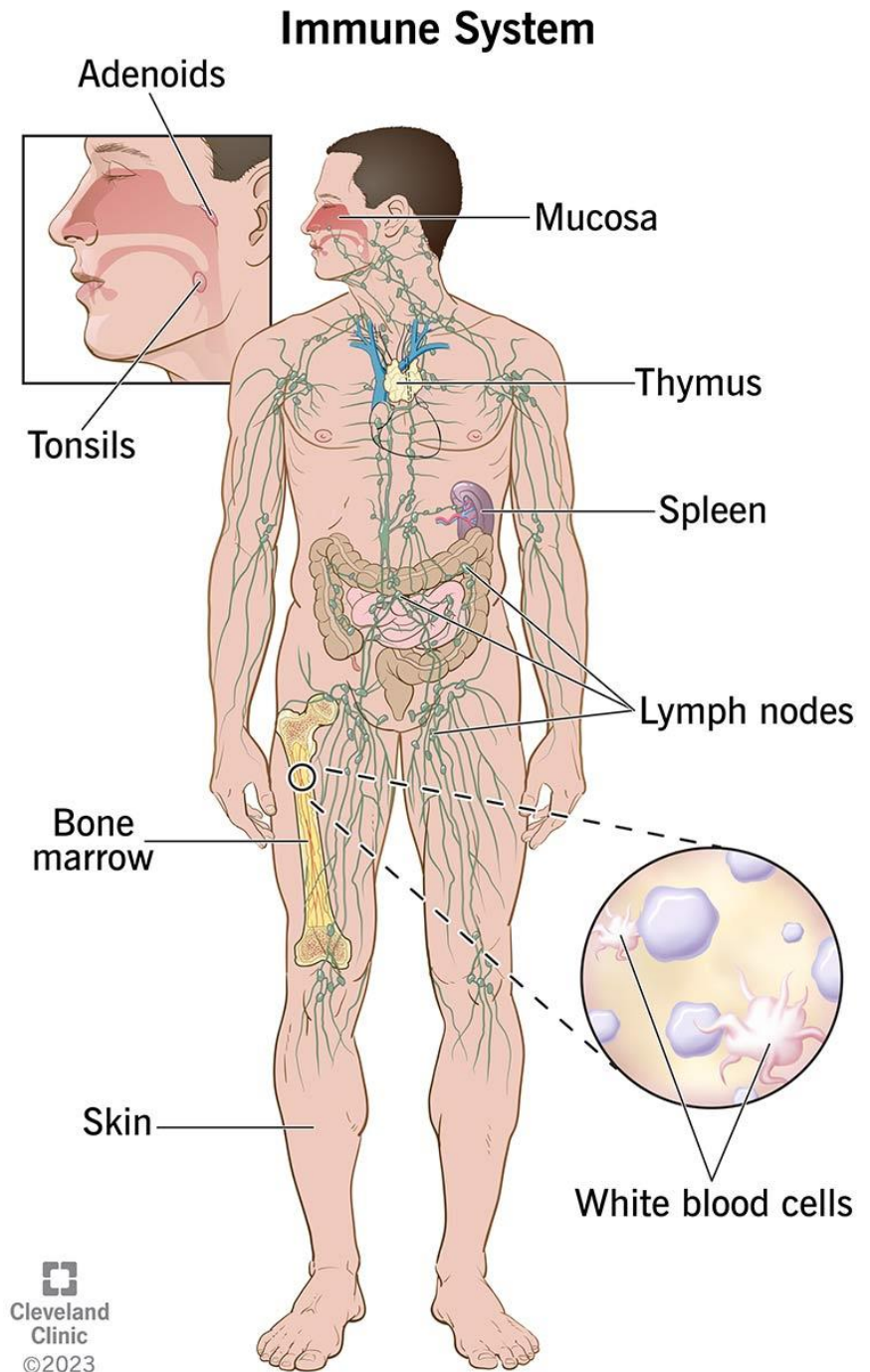
Immunterapi mot kreft

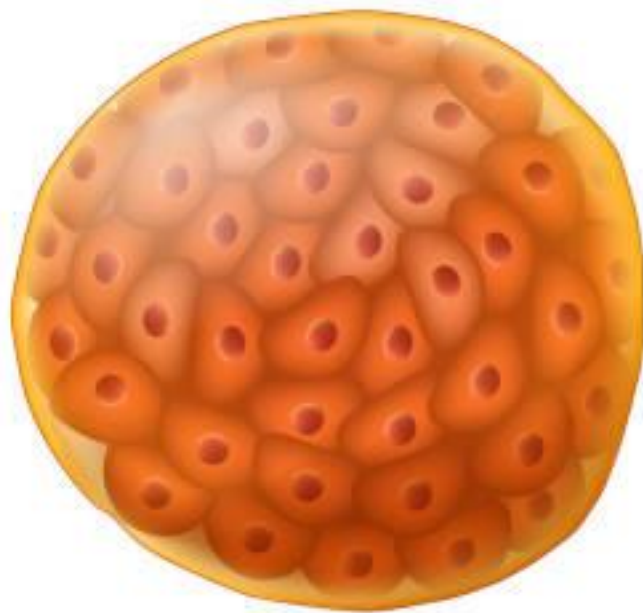
Marit Inngjerdingen
Avdeling for farmakologi
Institutt for klinisk medisin
Universitetet i Oslo



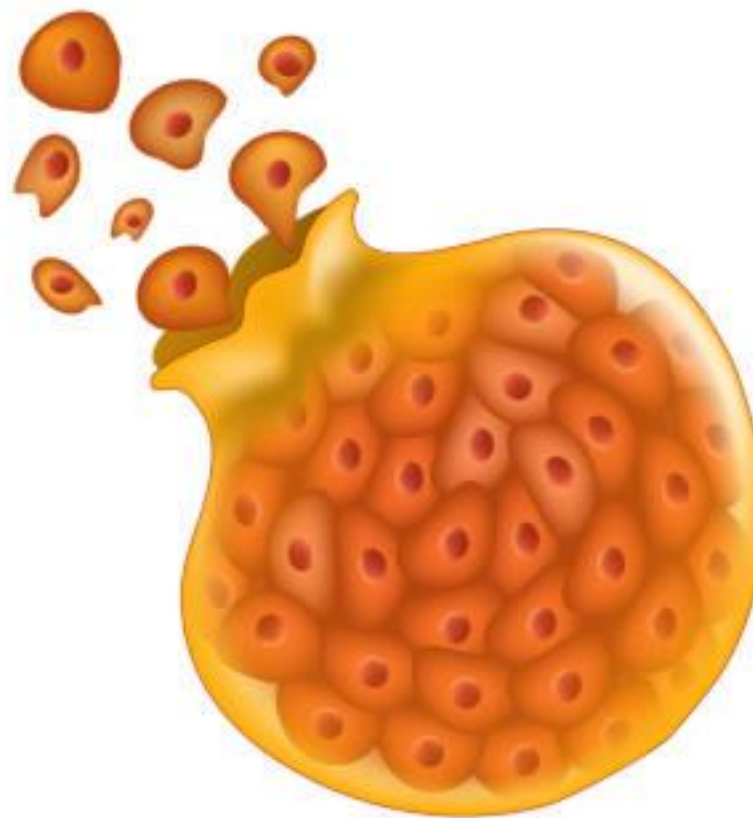
Immunsystemets oppgaver er:

- 1 Fjerne potensielt sykdomsfremkallende mikroorganismer (virus, bakterier...)
- 2 Fjerne kreftceller

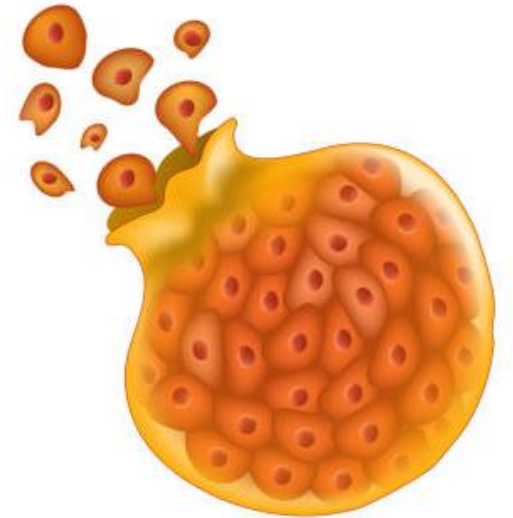
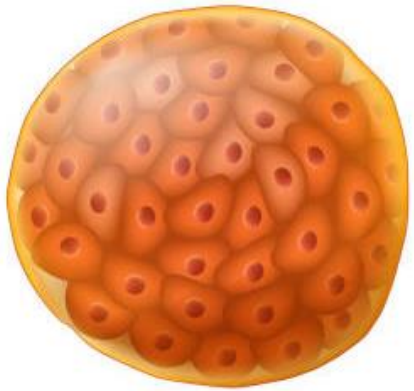
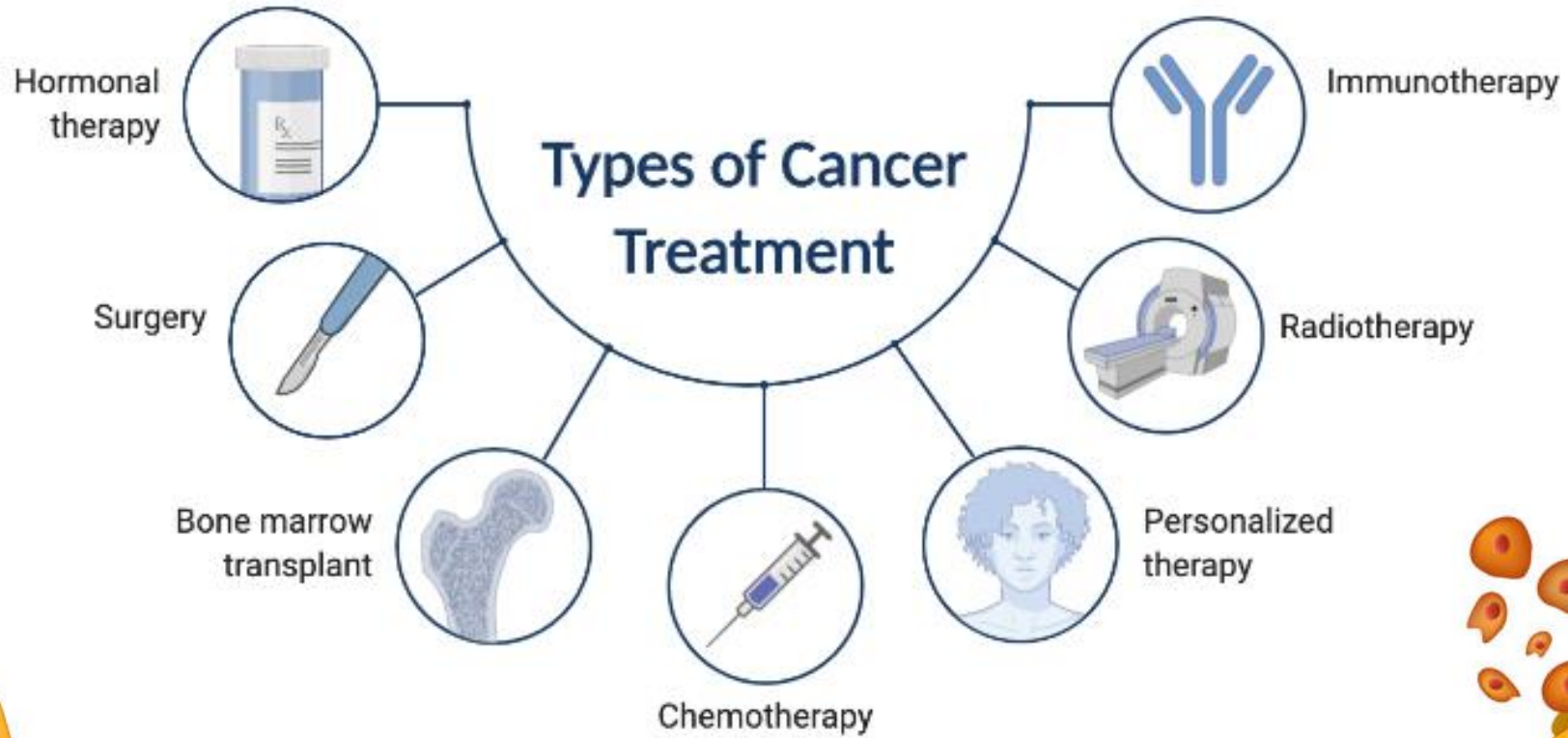




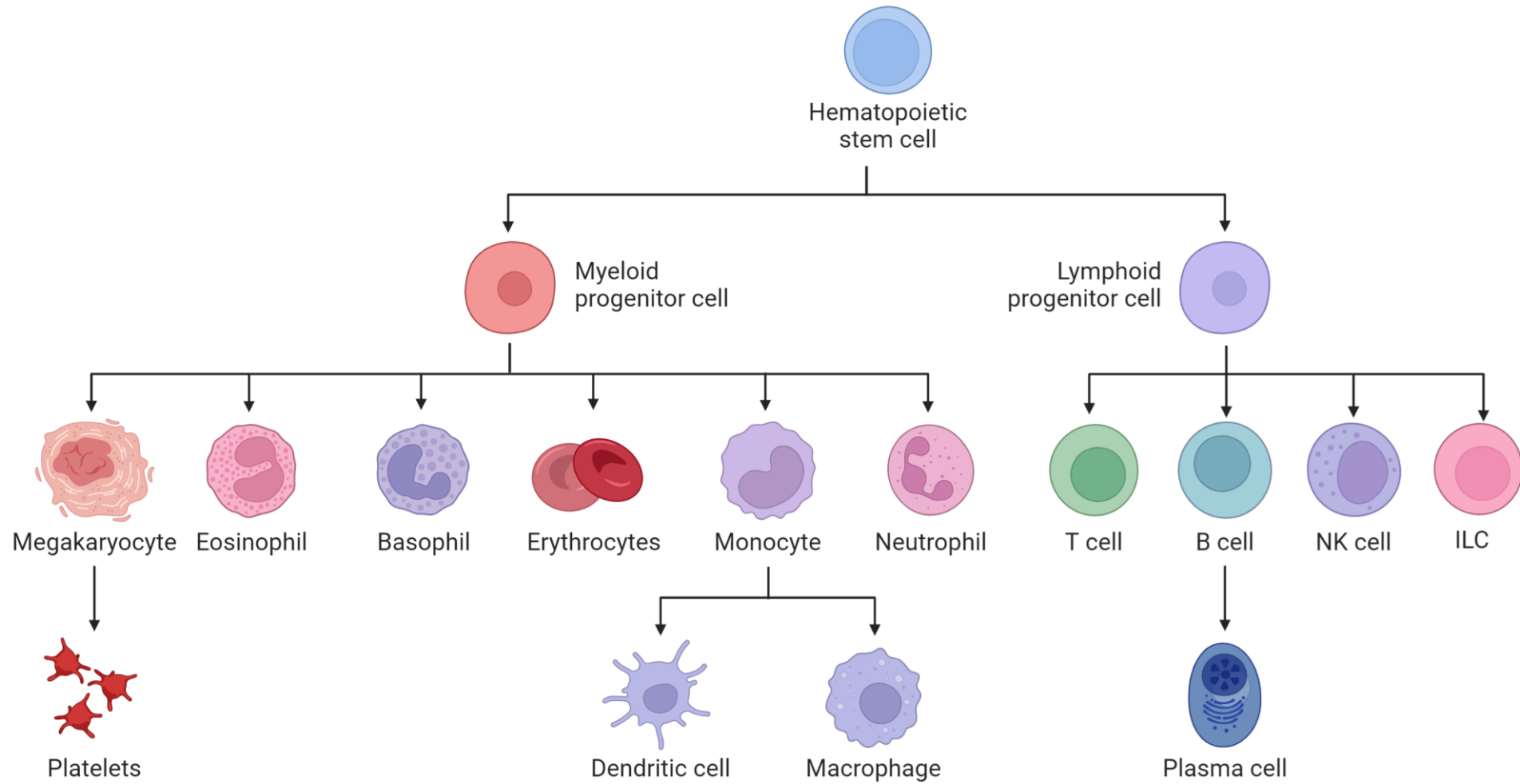
Godartet tumor



Ondartet tumor



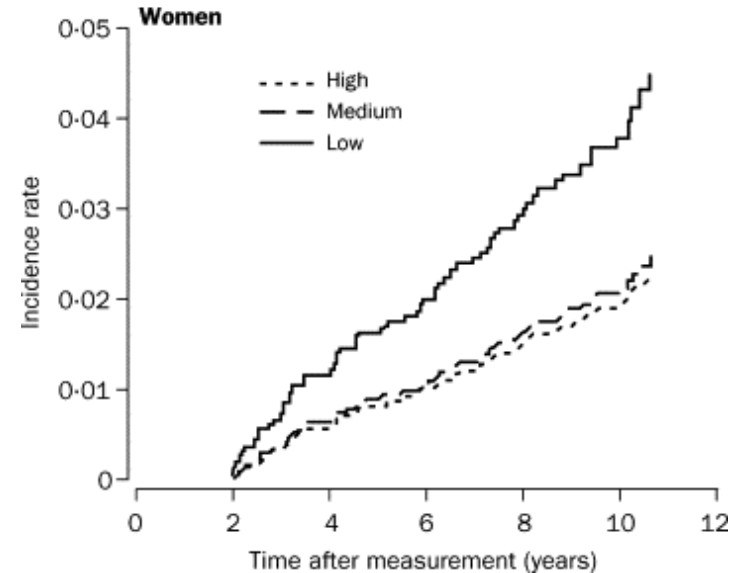
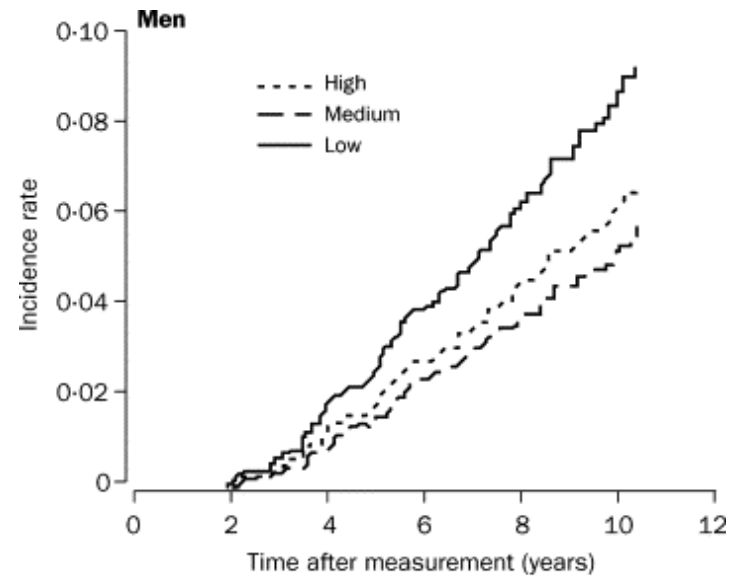
Vi har mange ulike immunceller med spesialiserte oppgaver

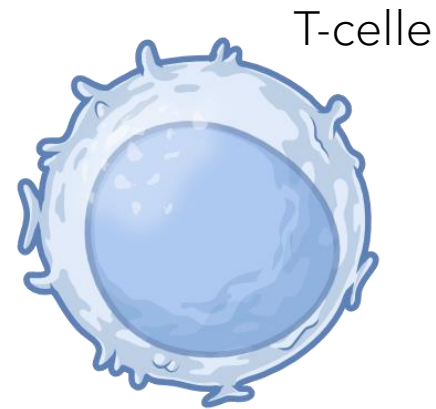
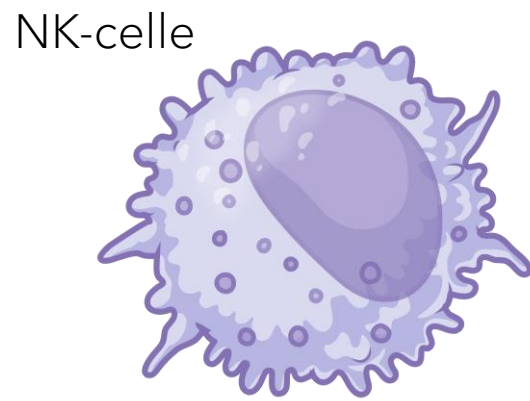
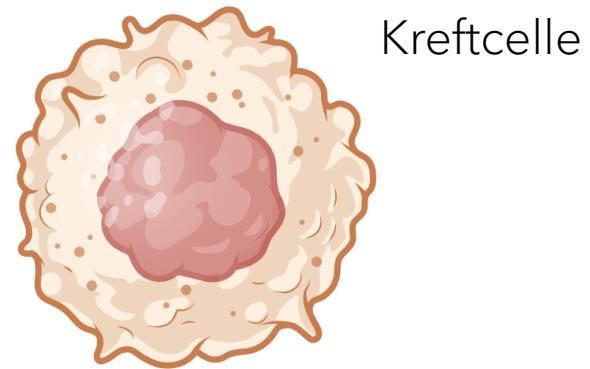
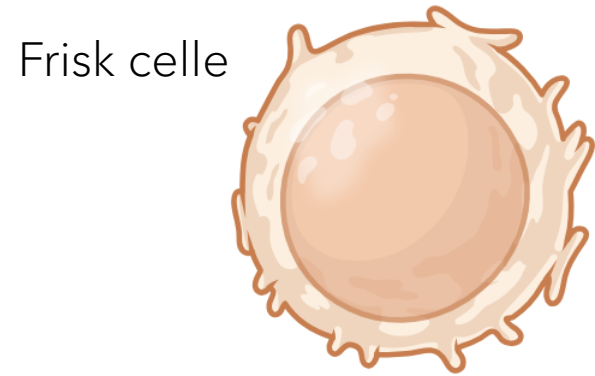


Hvofor kan jeg ikke spise meg frisk til et sunt immunforsvar som holder meg kreftfri?

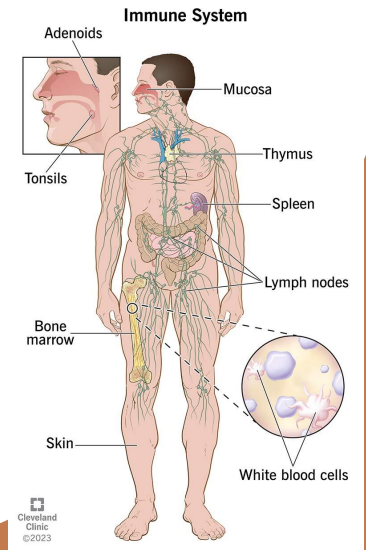
NK-cellenes aktivitetsnivå kan ha sammenheng med kreftutvikling

Prospektivt studie som fulgte 3625 mennesker over 11 år i Japan

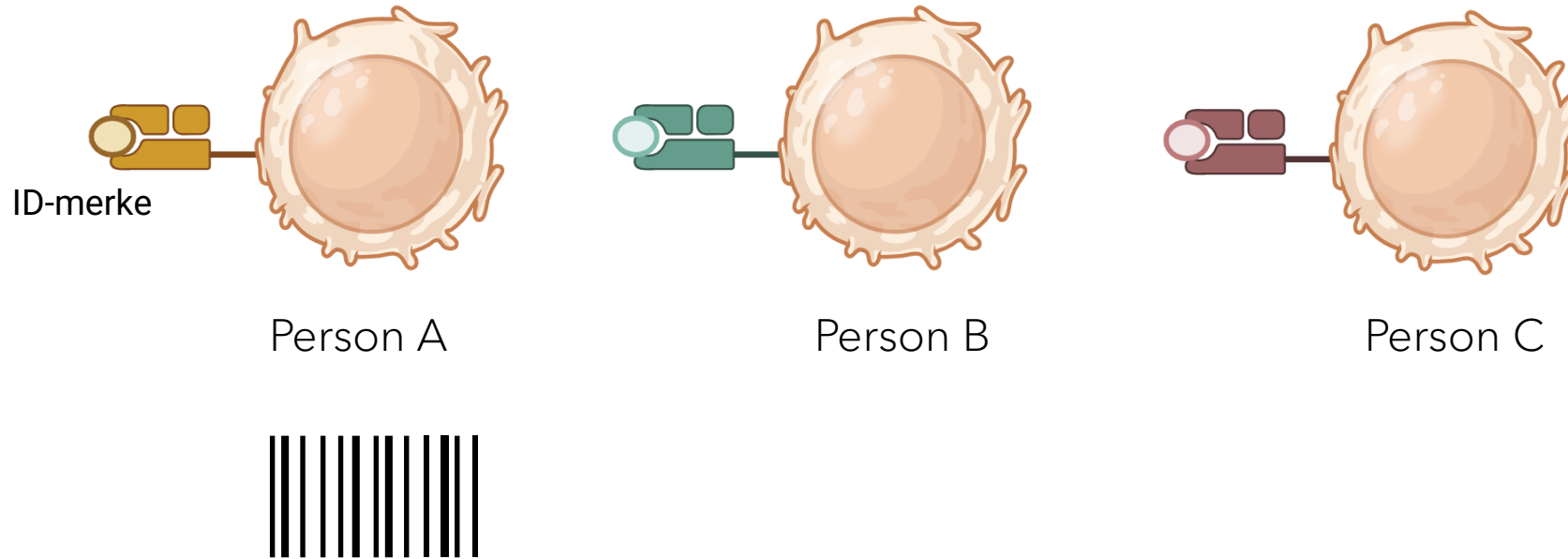




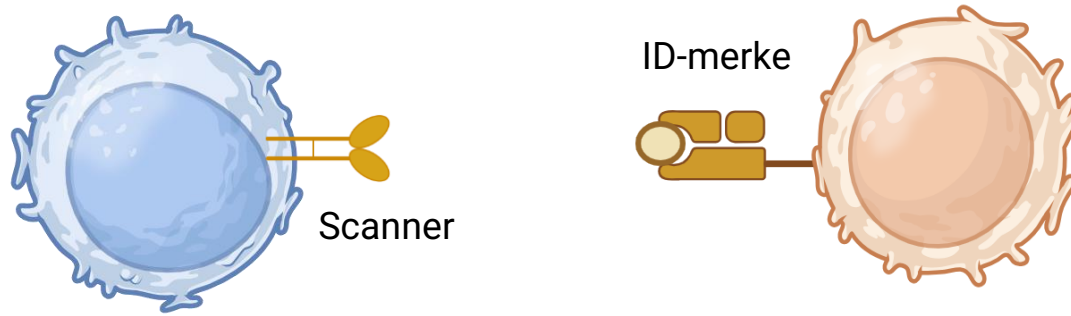
?



Alle cellene i kroppen vår har et ID-merke, unikt for hver person

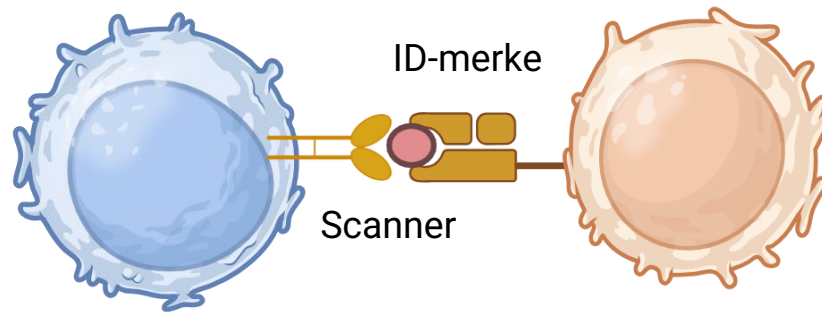


Immuncellene våre scanner ID-merket



Hvis ID-merket er korrekt, er alt i orden

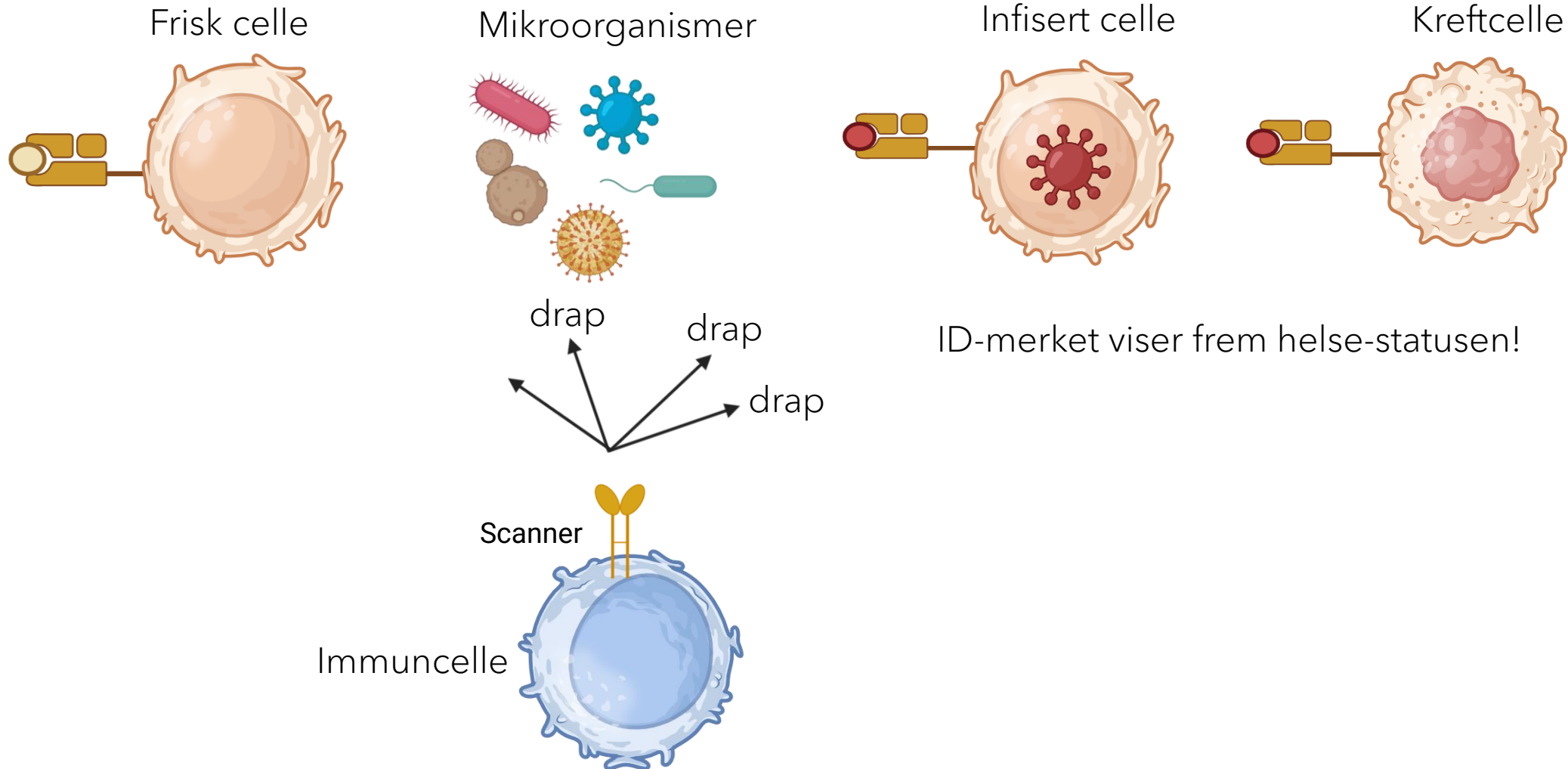
Immuncellene våre scanner ID-merket



Hvis ID-merket IKKE er korrekt, blir cellen eliminert



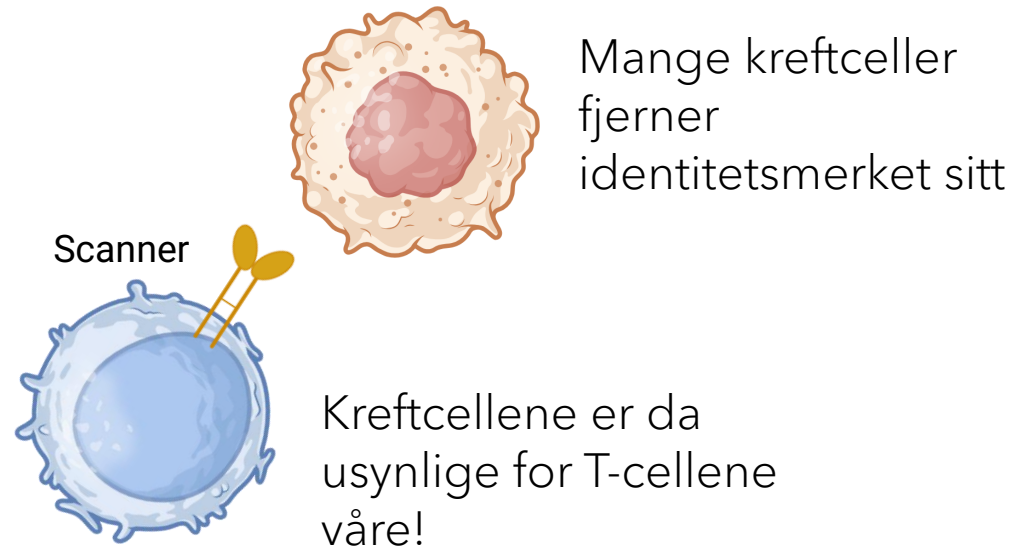
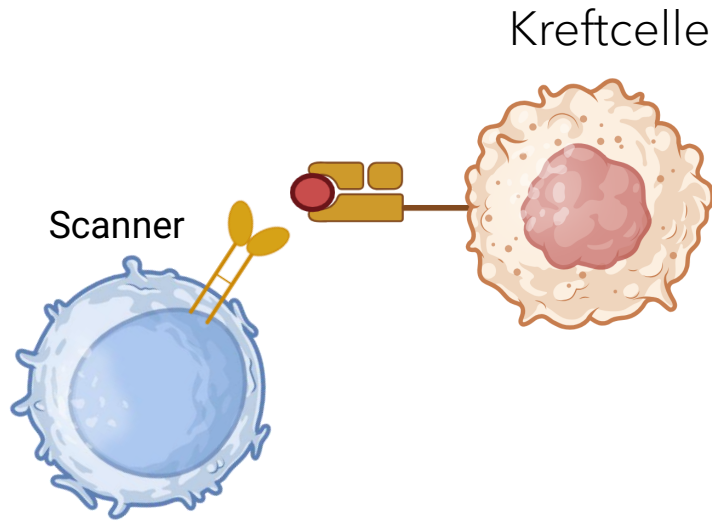
Immuncellene er opplært til å se forskjell på fremmed og eget



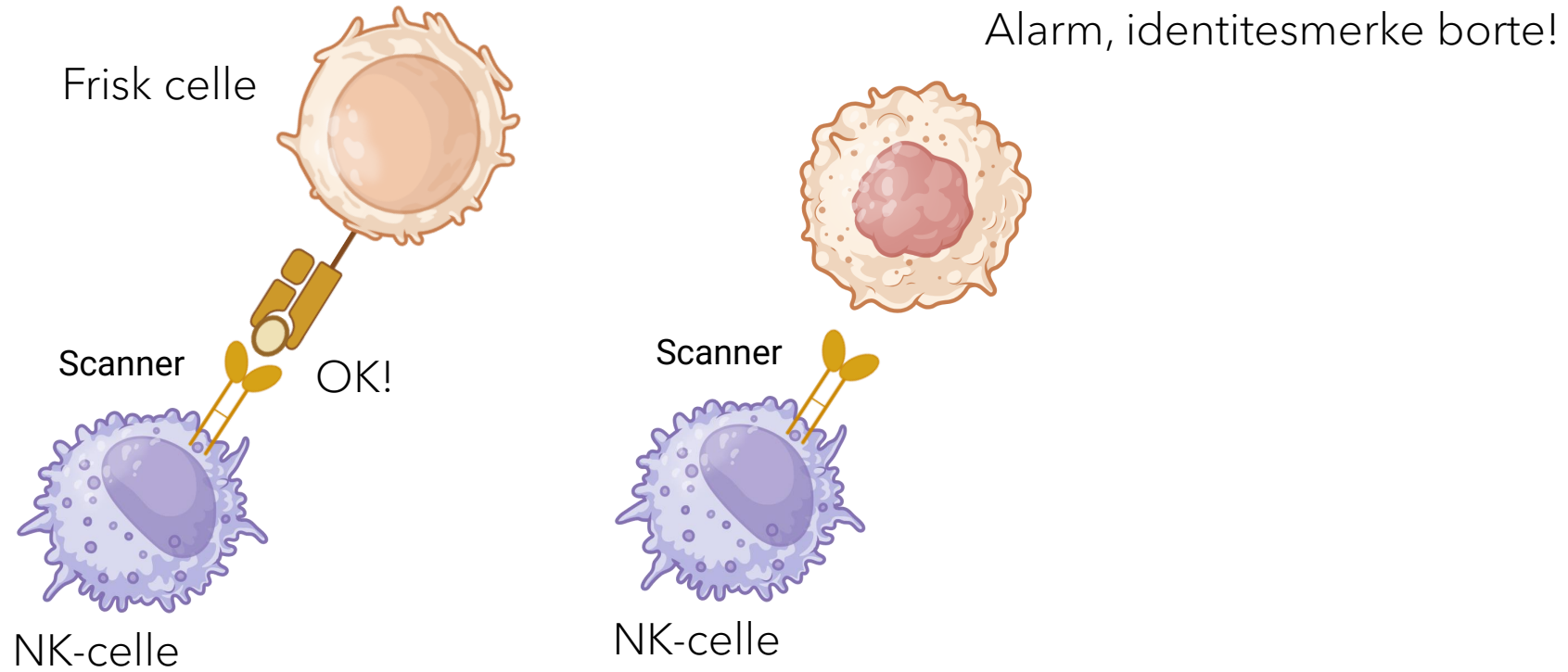
Hvorfor har vi kreft når immunforsvaret
vårt er trent til å finne kreftceller?



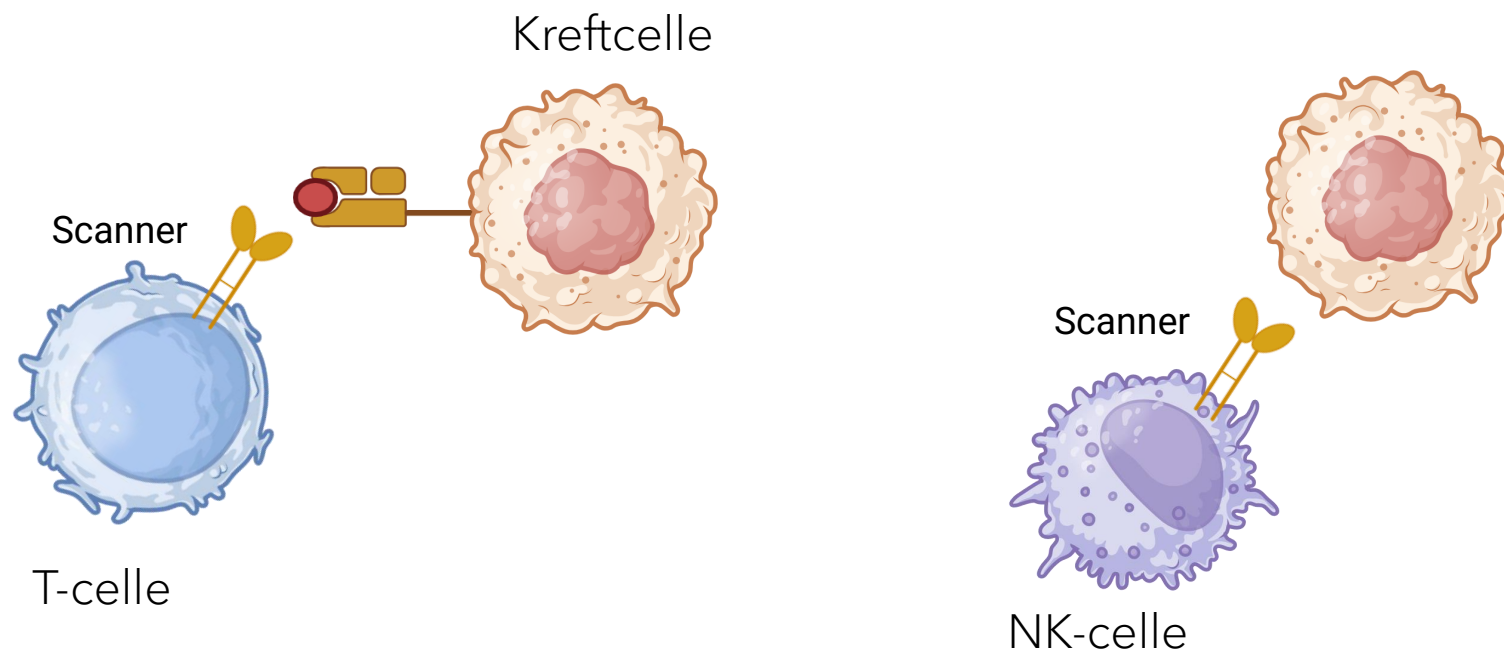
Det pågår en kamp mellom kreftcellene og immuncellene våre



NK-celler trår til når T-cellene blir blinde

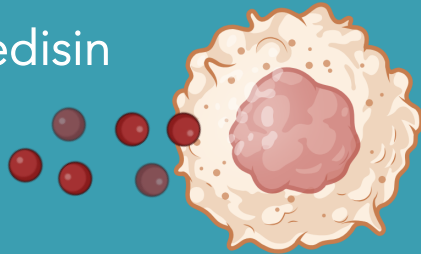


Hva gjør kreftcellene for å motstå disse immuncellene?



Kreftceller sørger for at immuncellene våre ikke virker

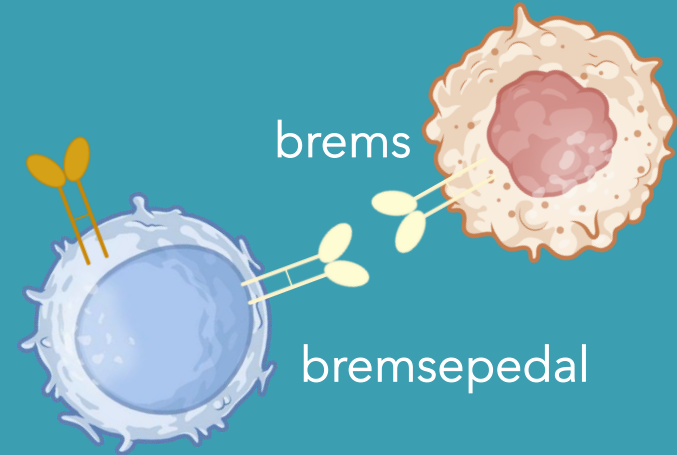
sovemedisin



ugjestmildt miljø

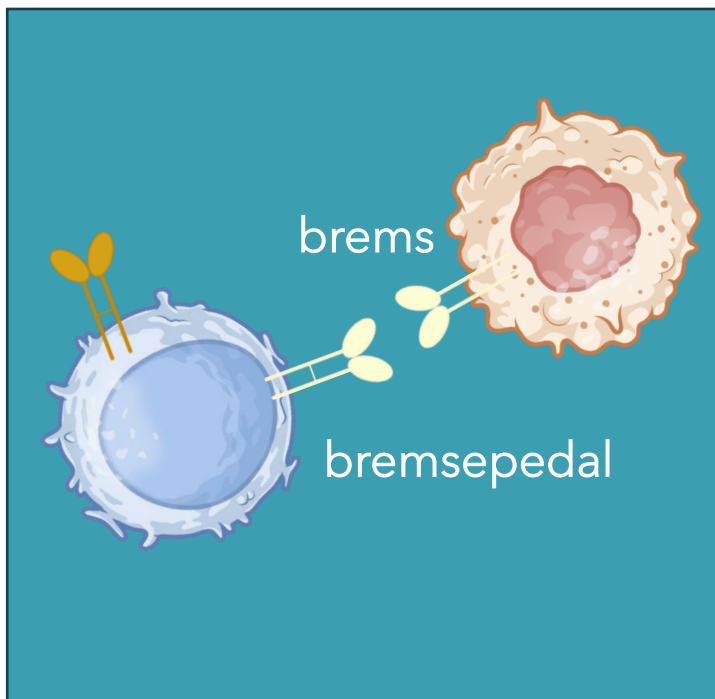


skru av aktivitet

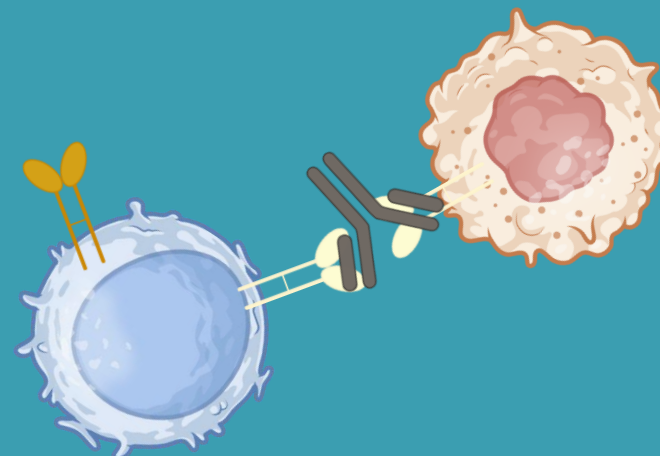


Immunterapi:

Gi kraften tilbake til immuncellene!

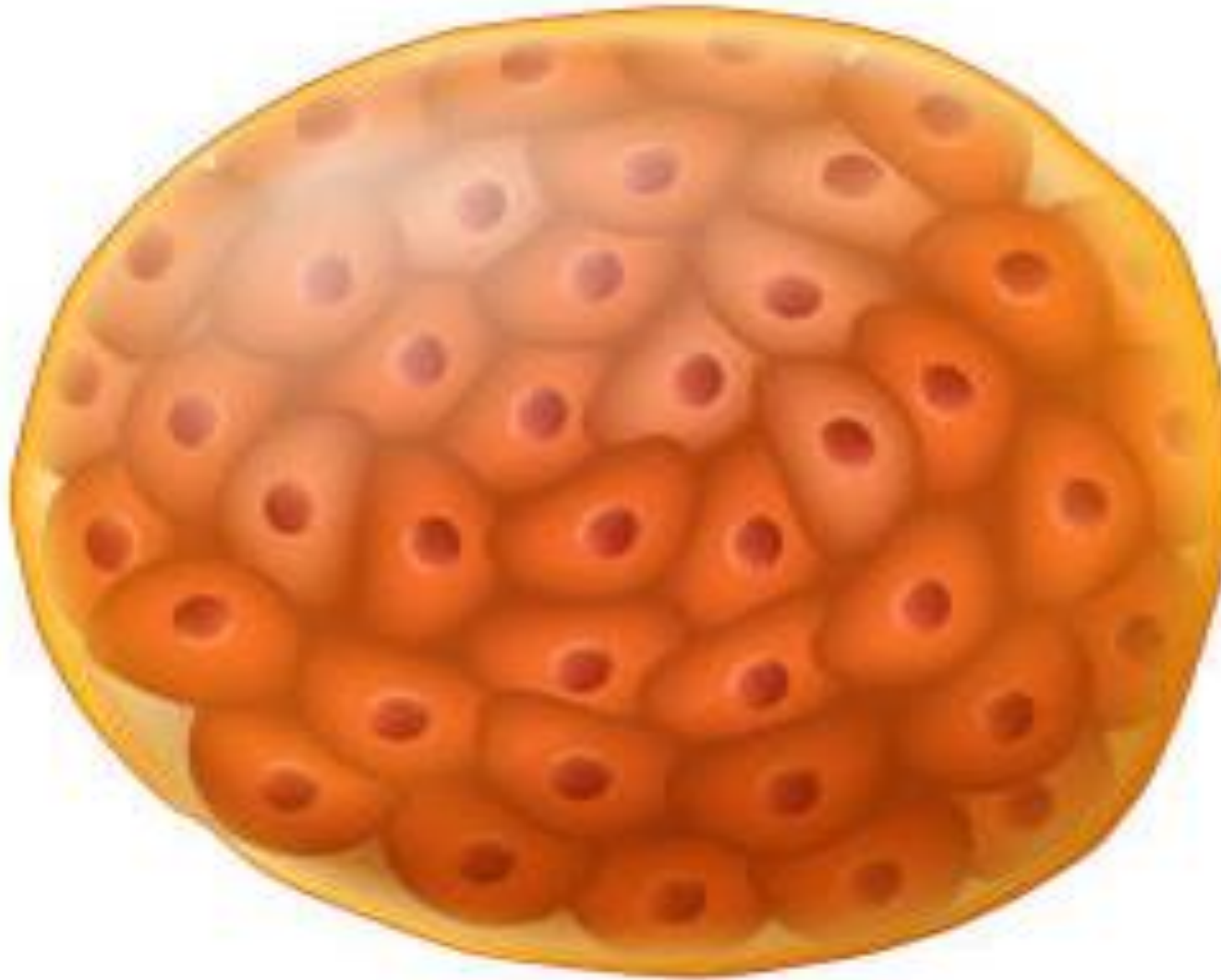


Sjekkpunkthemmere



Skrur av bremsen og reaktiverer scanneren,
kreftcellene drepes

Problemene star i kø: Kreftcellene lager fysiske barrierer

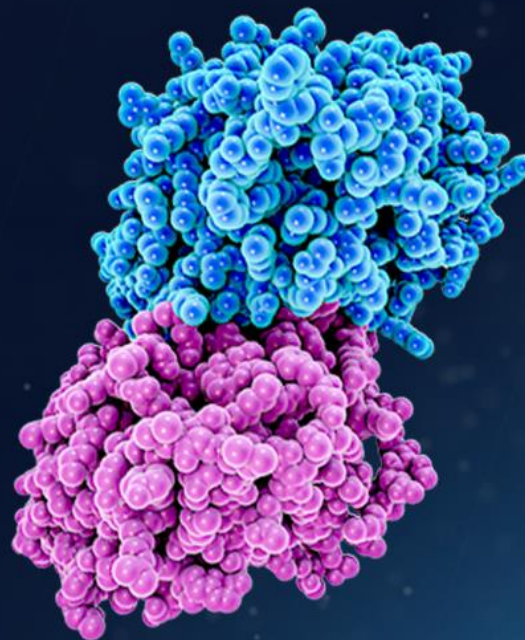


Malbrok slott, Polen





Nano-immunterapi





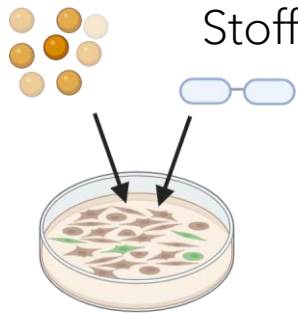
The diagram illustrates the process of an NK cell killing a target cell. On the left, a large, pink, irregularly shaped target cell is shown. To its right is a large, dark blue, irregularly shaped NK cell. Inside the NK cell, there are several organelles: two blue, bean-shaped mitochondria with internal folds, a large blue nucleus with a darker blue nucleolus, and several circular granules containing small blue dots. One granule is shown in the process of fusing with the cell membrane, releasing its contents. The released contents are small, blue, spherical granules that are scattered in the space between the NK cell and the target cell. Some of these granules are shown hitting the target cell. The background is a gradient of purple and blue.

NK-celle

NK-celler slipper ut
bittesmå bobler som
inneholder gift

Torpedoer fra NK-celler dreper kolonkreft

Torpedoer

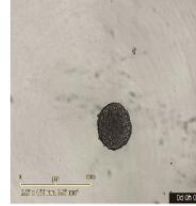


Stoff som måler død

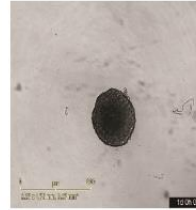
Skål med kreftceller

Ingen

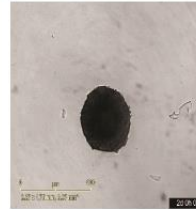
Day 0



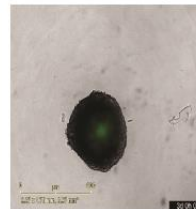
Day 1



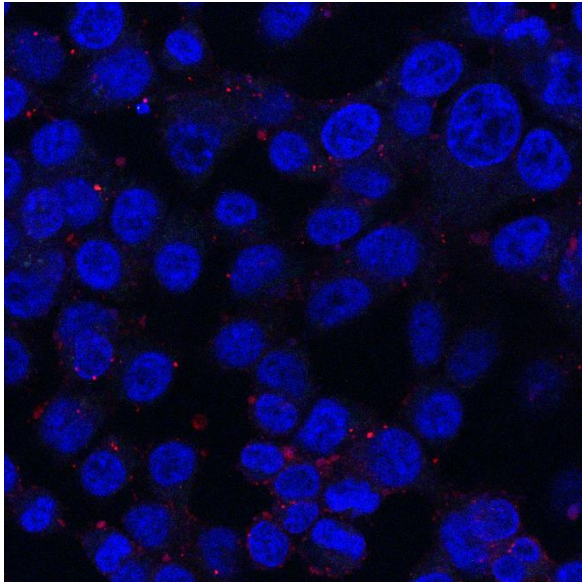
Day 2



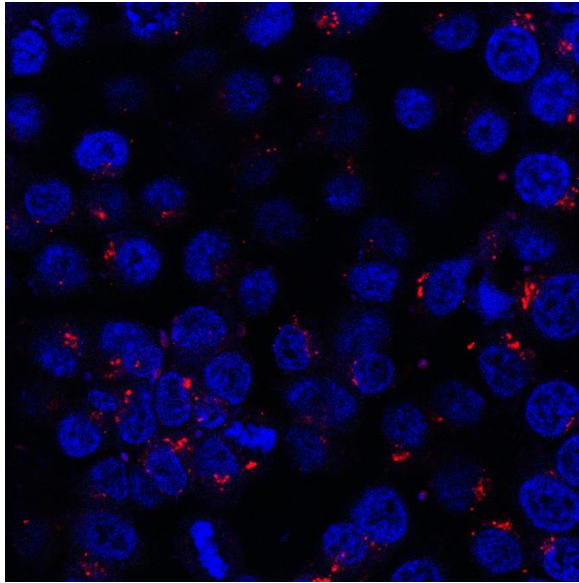
Day 3



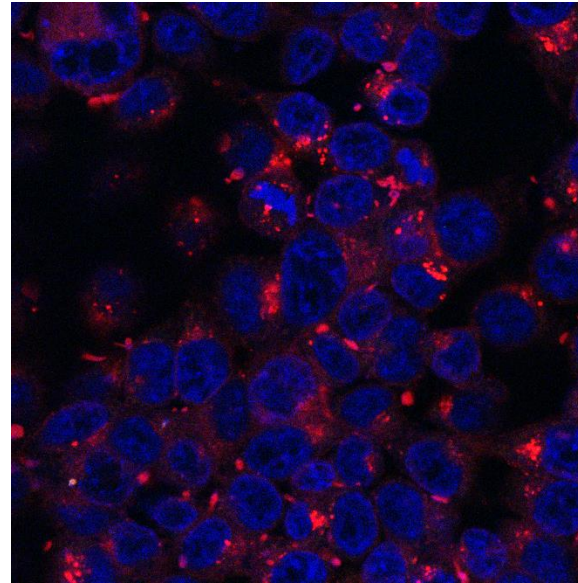
30 min



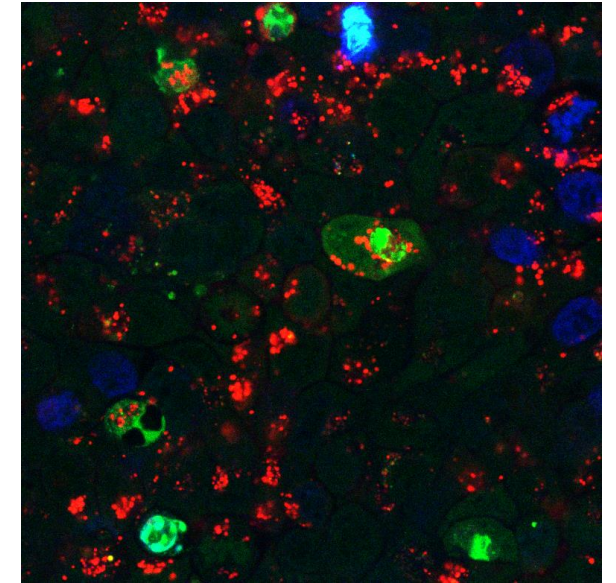
3 timer



6 timer

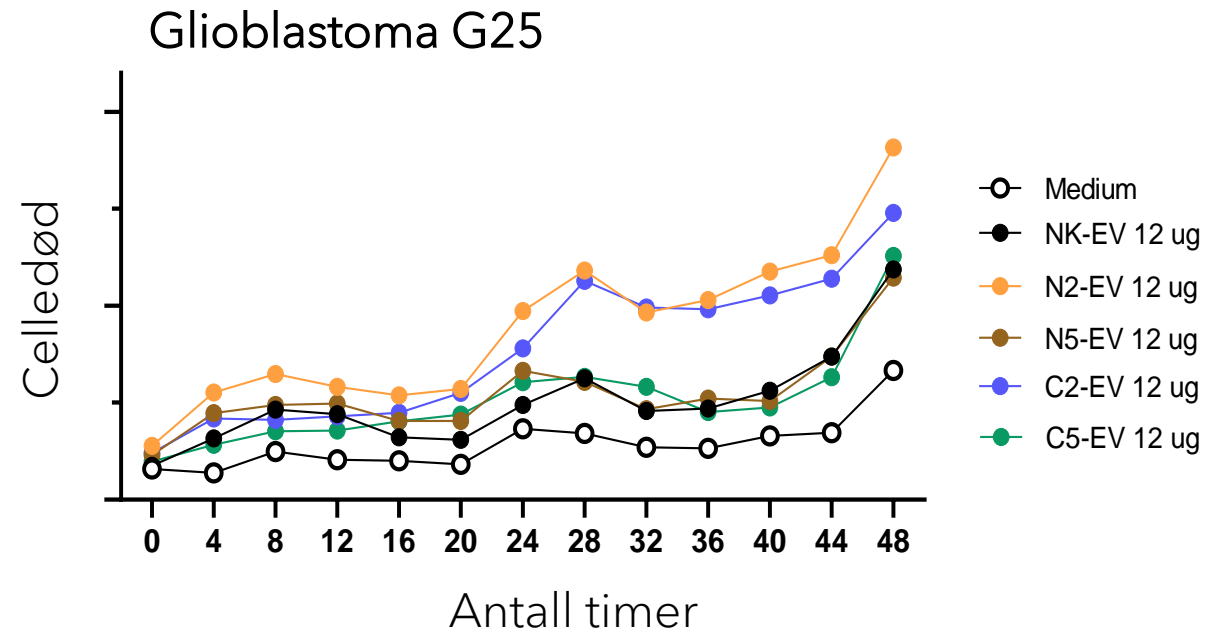
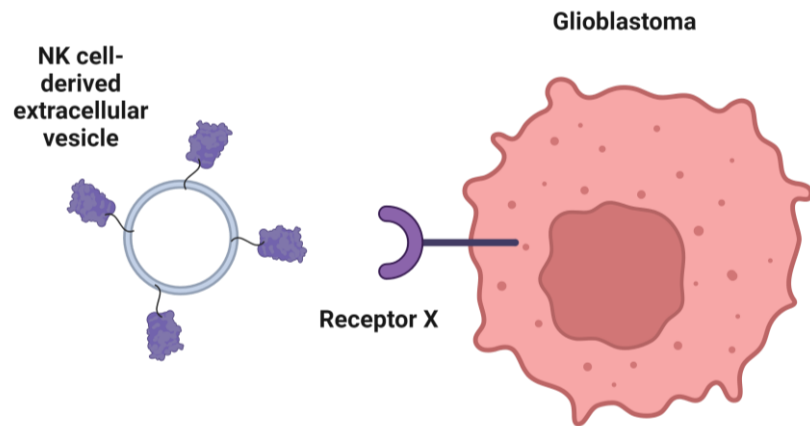


24 timer



Blå: Celler
Grøn: Indikerer død
Rød: Torpedoene

Designer-torpedoer for bedre målretting



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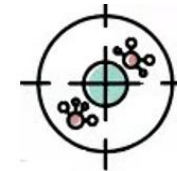
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**INNATE
LYMPHOCYTES & CANCER**