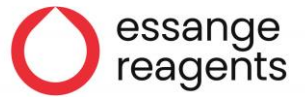




Immunohematologie
Expertisecentrum



NVB 10 mei 2023

Inhibitie van Daratumumab (anti-CD38) met anti-idiotypen antistoffen

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Henk te Velthuis, Claudia Folman en Theo Rispens



Disclosures

- Geen

Wat is Daratumumab?

- CD38 = Receptor of enzym op witte bloedcellen:

Plasmacellen

NK cellen

B cellen

T cellen

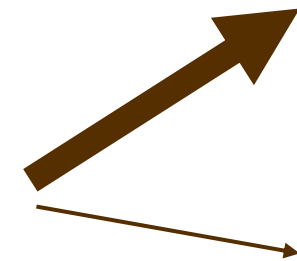
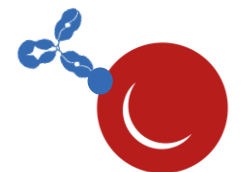
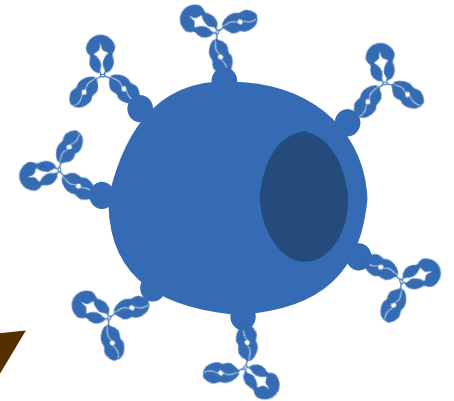
Enkele andere cellen -> Zwak op erythrocyten!

- Behandeling voor Multiple Myeloom (Ziekte van Kahler)

- Immunotherapie: Monoklonale anti-CD38 antistoffen

- Daratumumab

- Isatuximab



Uitsluiten achter anti-CD38

- AET/DTT

- Nadeel: Niet uitsluiten van antistoffen in het Kell, Dombrock en Lutheran systeem

- DaraEx

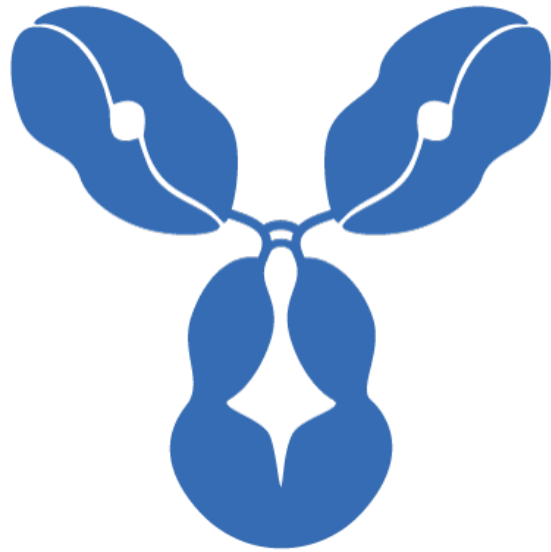
- Nadeel: Werkt niet bij hoge anti-CD38 titer

- Panel van navelstreng erythrocyten

- Gekweekte CD38 negatieve testerythrocyten

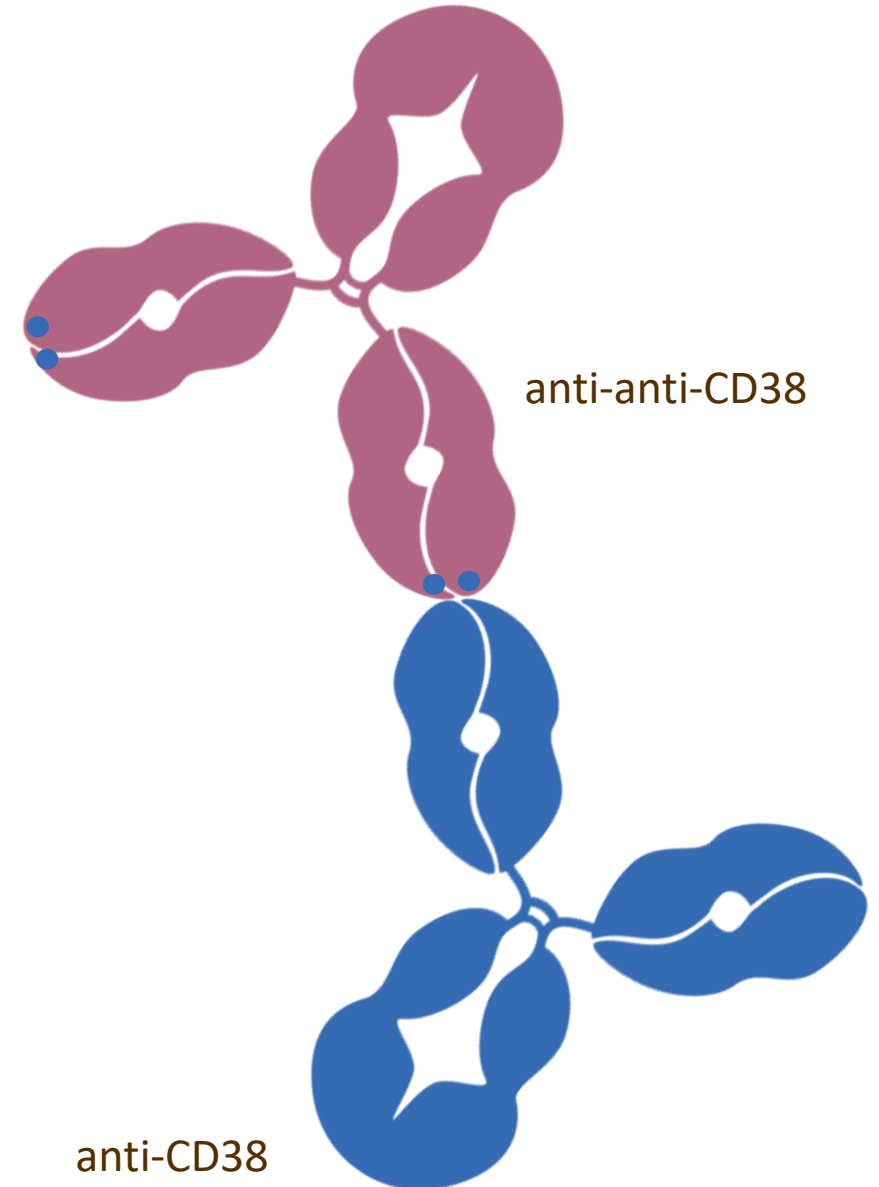
- Anti-idiotypen antistoffen

Anti-Idiotypic antibodies

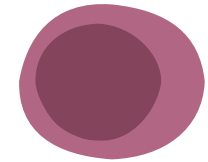
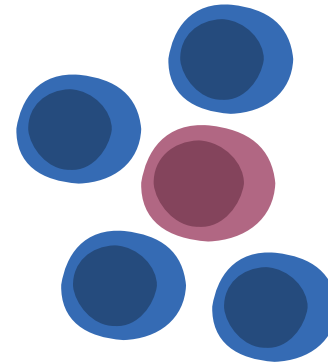
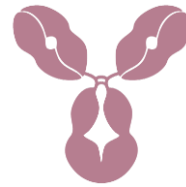
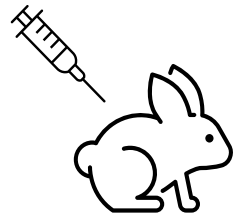
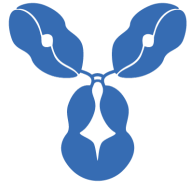


Idiotype
Antigen specific

Isotype
(IgG, IgM, IgA, IgD, IgE)



Productie anti-anti-CD38



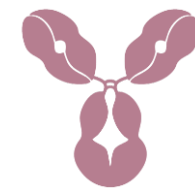
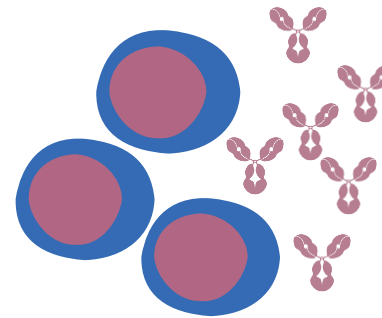
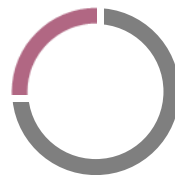
Anti-CD38

Immunisatie

Anti-
anti-CD38

B cellen isolatie

Idiotypic B cel



Sequencen

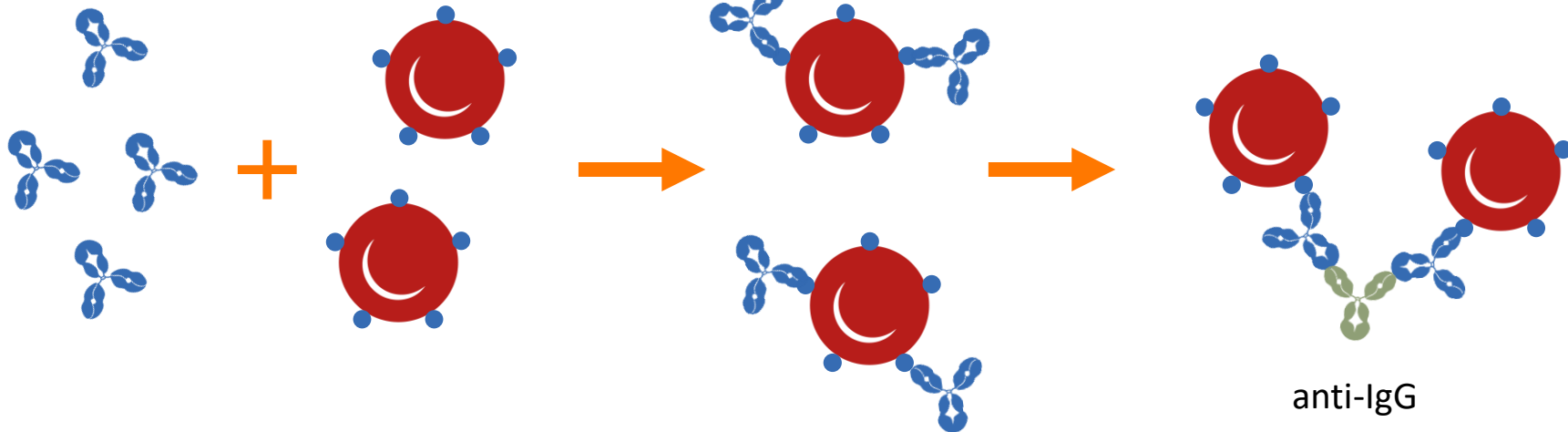
DNA in vector

Antistof-productie

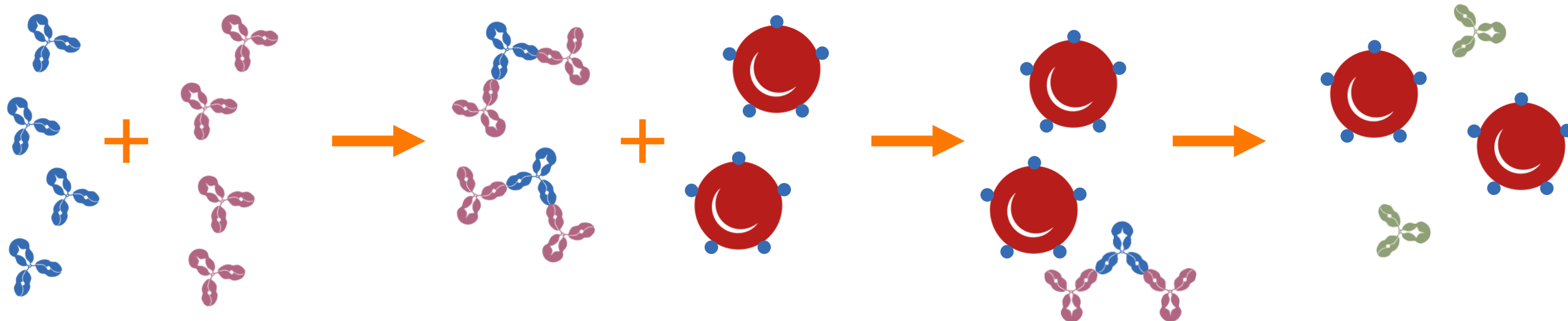
Anti-
anti-CD38

Principe

Plasma
anti-CD38

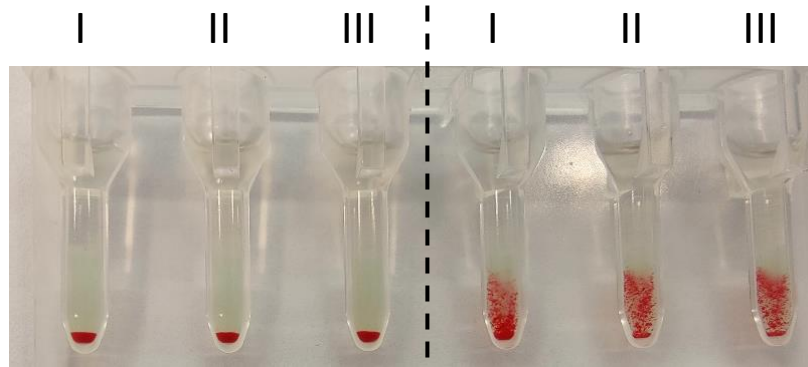


Plasma
anti-CD38
anti-anti-CD38



Resultaten

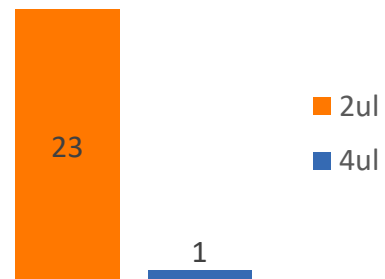
BioRad



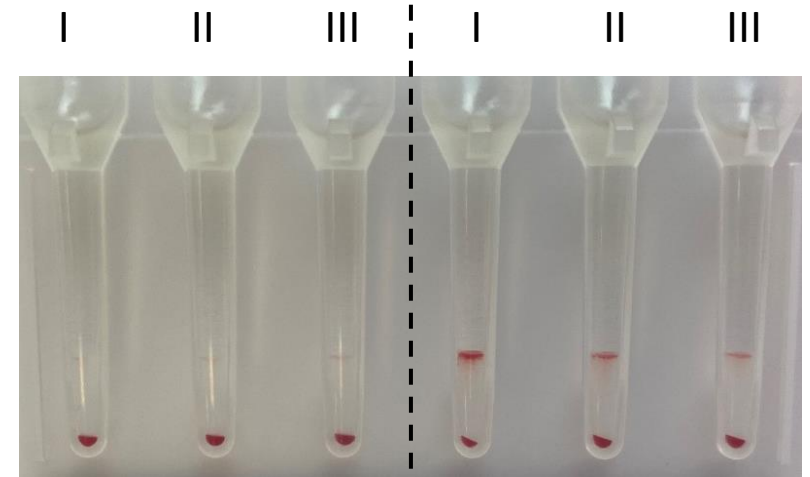
25ul
plasma

+ 2ul
anti-anti-CD38

+ 2ul
PBS



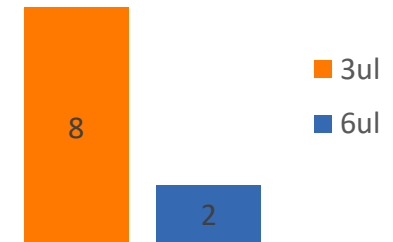
Cellbind



40ul
plasma

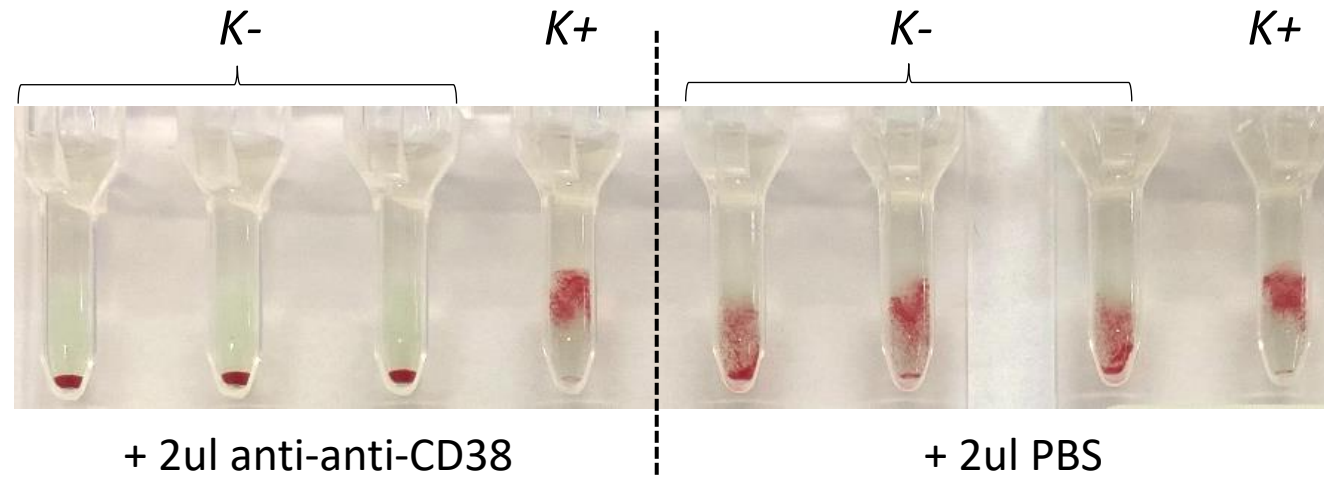
+ 3ul
anti-anti-CD38

+ 3ul
PBS

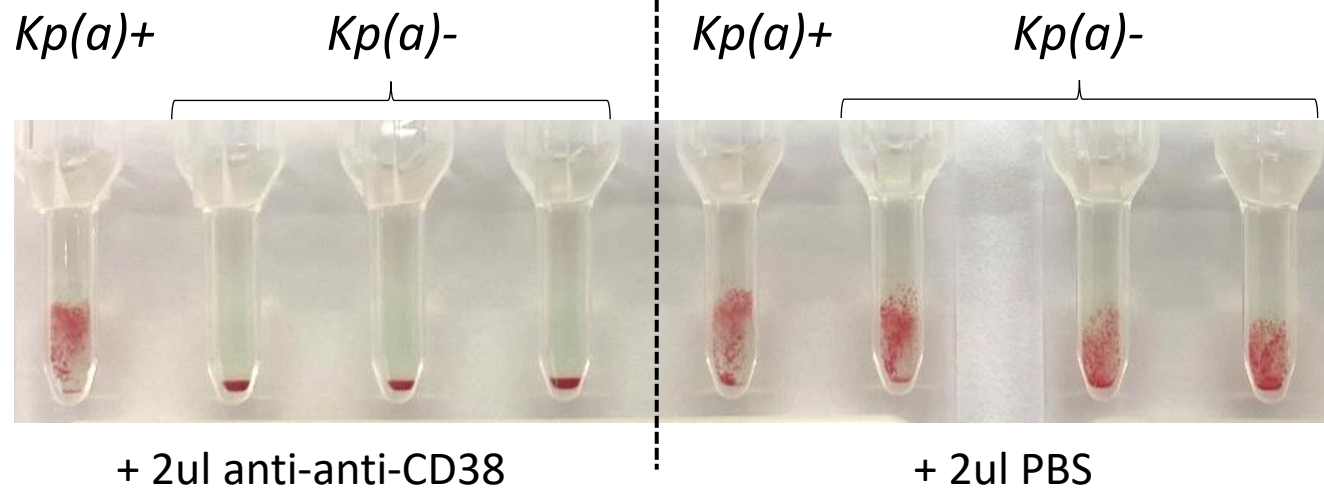


Resultaten allo-antistoffen

Anti-K



Anti-Kp(a)



Conclusie

- Anti-anti-CD38 kan gebruikt worden om Daratumumab te neutraliseren.
- Voordelen:
 - Kan ook antistoffen aantonen tegen het Kell systeem
 - Werkt ook bij patiënten met een hoge anti-CD38 titer
- Nadeel:
 - Werkt alleen bij Daratumumab (niet bij Isatuximab)
- Toekomst:
 - Ook anti-idiotypische antistoffen maken voor Isatuximab
 - Optimaliseren protocol en concentratie
 - Uitgebreide validatie

