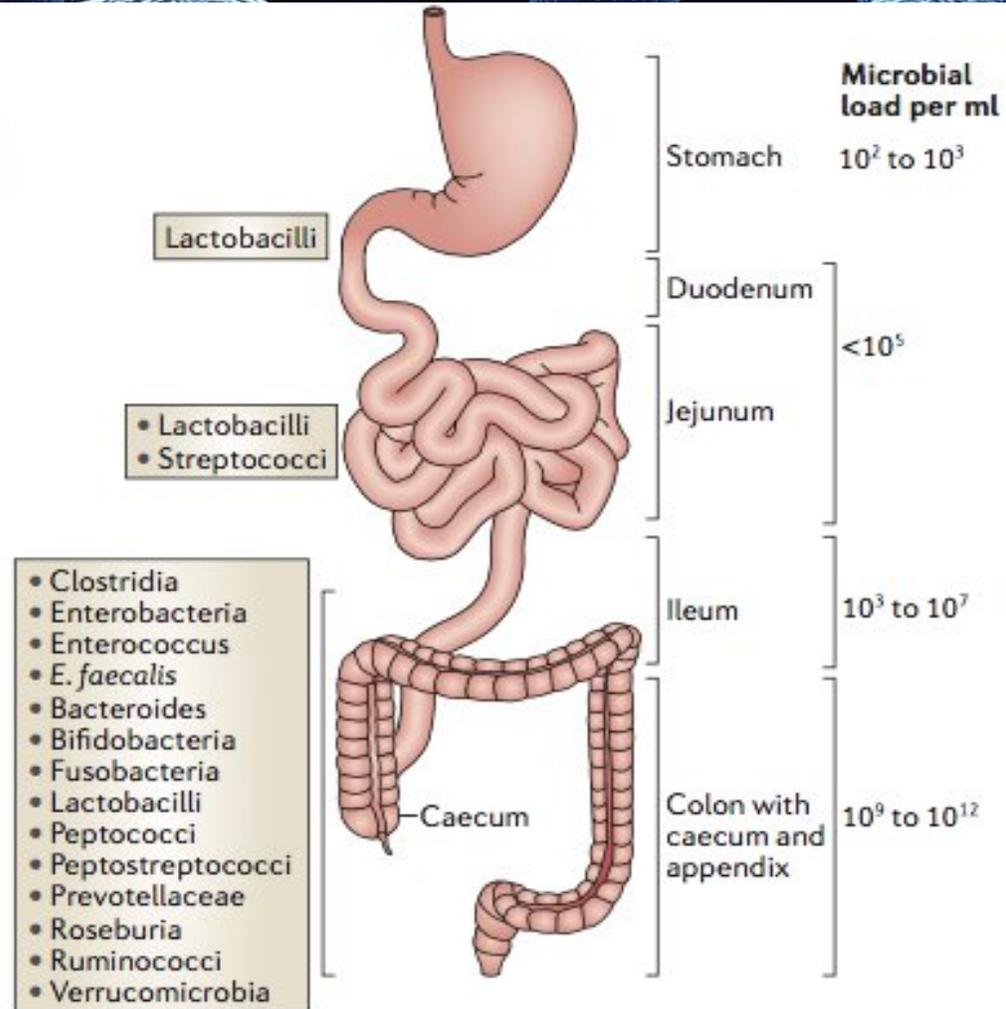


The background of the slide is a detailed, high-magnification scanning electron micrograph of various bacterial species. The bacteria are rendered in shades of blue and cyan, showing diverse shapes including spheres, rods, and curved forms. Some have textured, almost crystalline surfaces, while others appear smoother. They are scattered across the frame, creating a dense, three-dimensional effect.

Microbiote et pathologies inflammatoires : rôle du système immunitaire

Emmanuelle Godefroy, PhD
INSERM U1232 – CRCINA
Nantes, France

microbiote intestinal



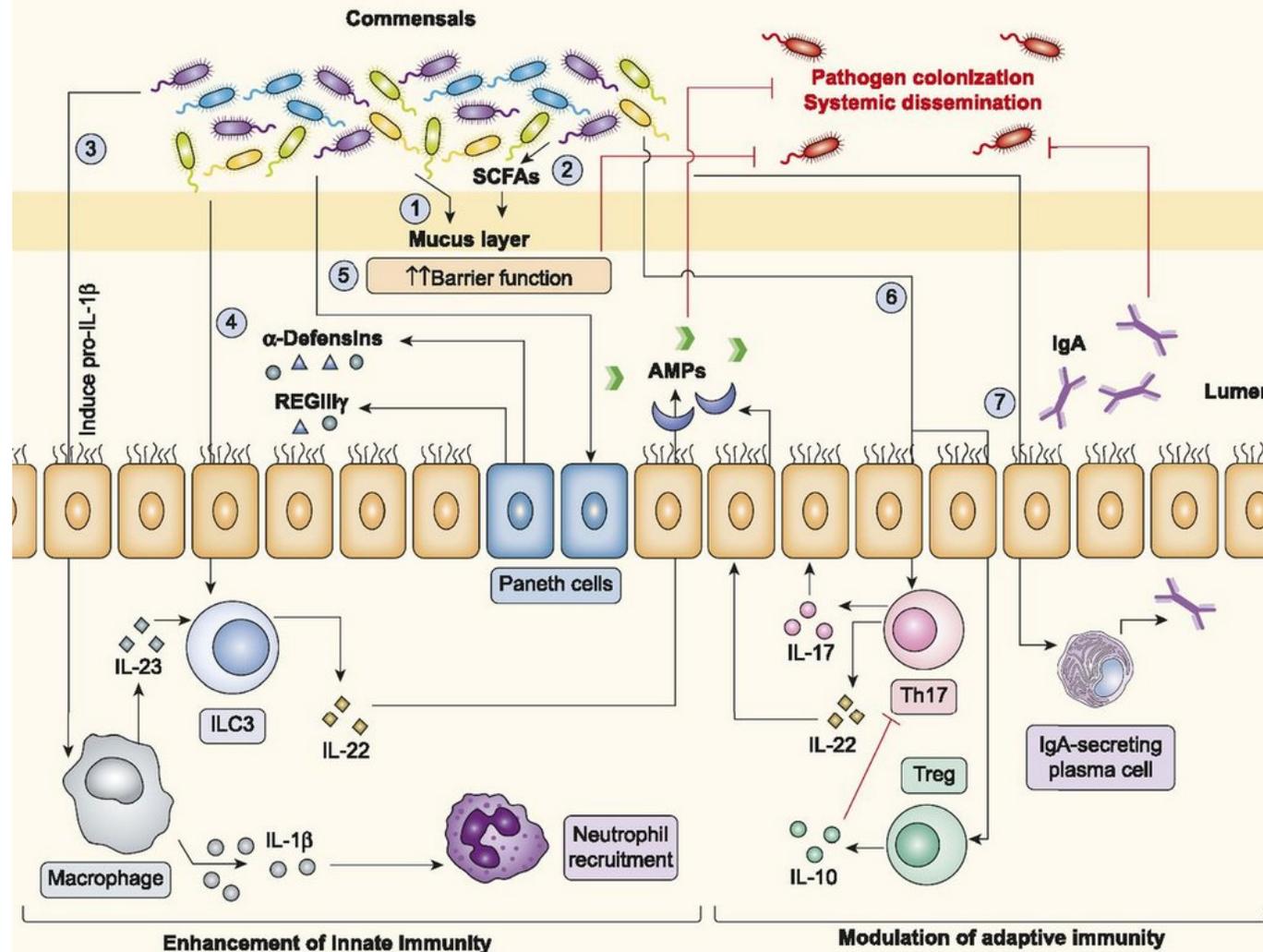
Mowat *et al.*, 2014
Nature Reviews in Immunology

interactions hôte/microbiote dans l'intestin

lumière
intestinale

épithélium

lamina
propria

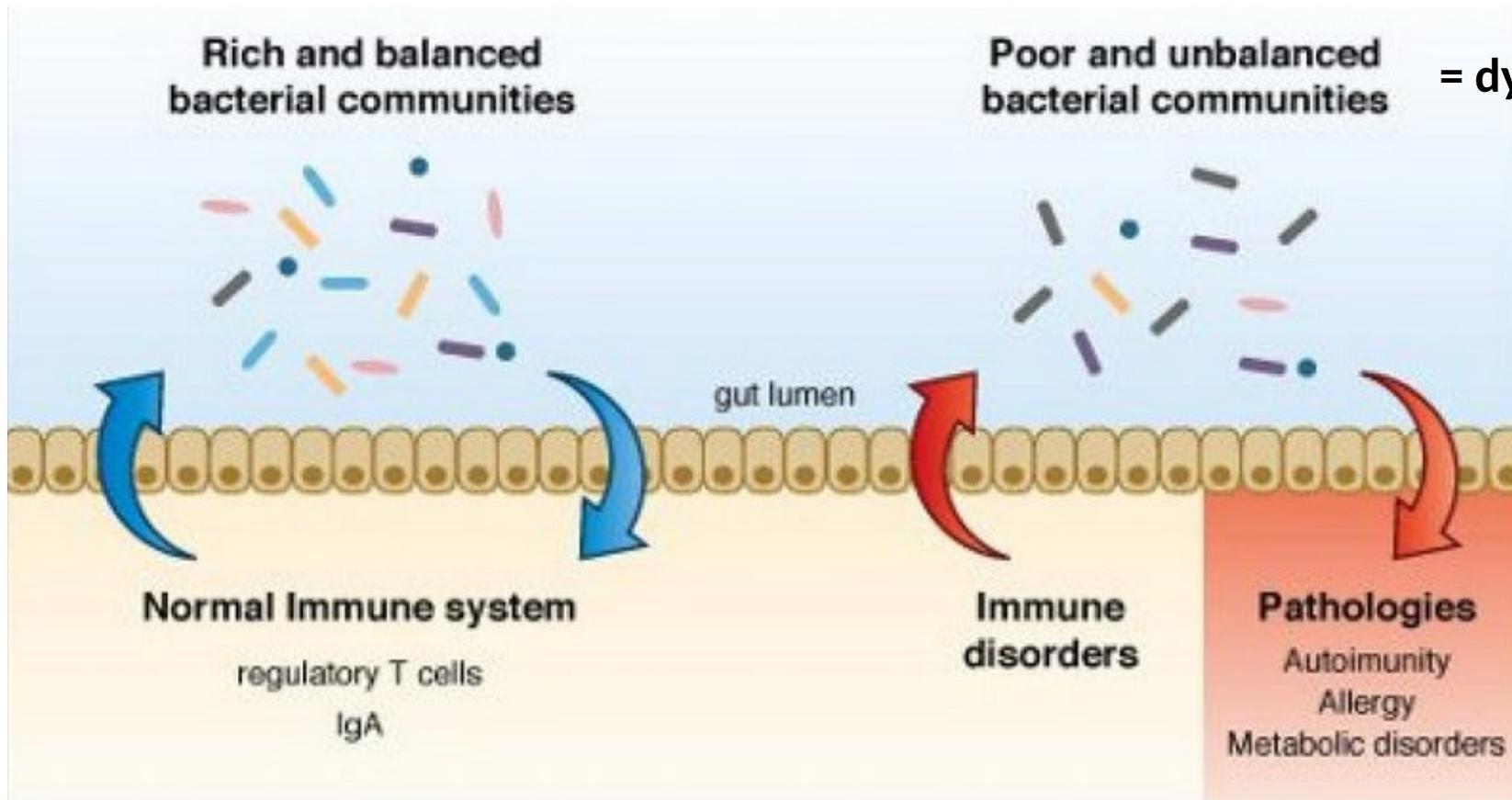


interactions hôte/microbiote dans l'intestin

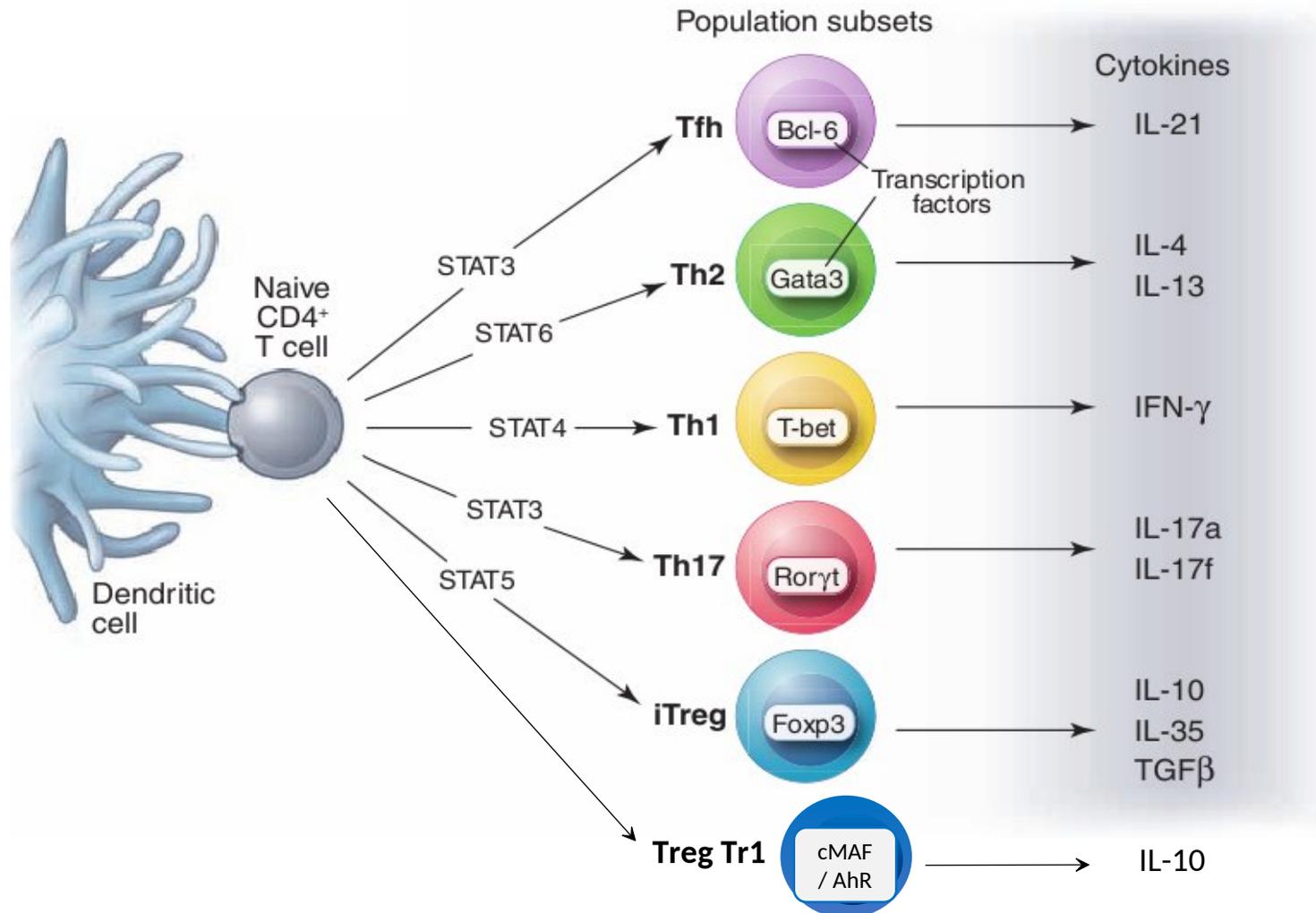
lumière intestinale

épithélium

lamina propria



Polarisation des principales populations de lymphocytes T CD4⁺



- coopération T/B : production d'anticorps

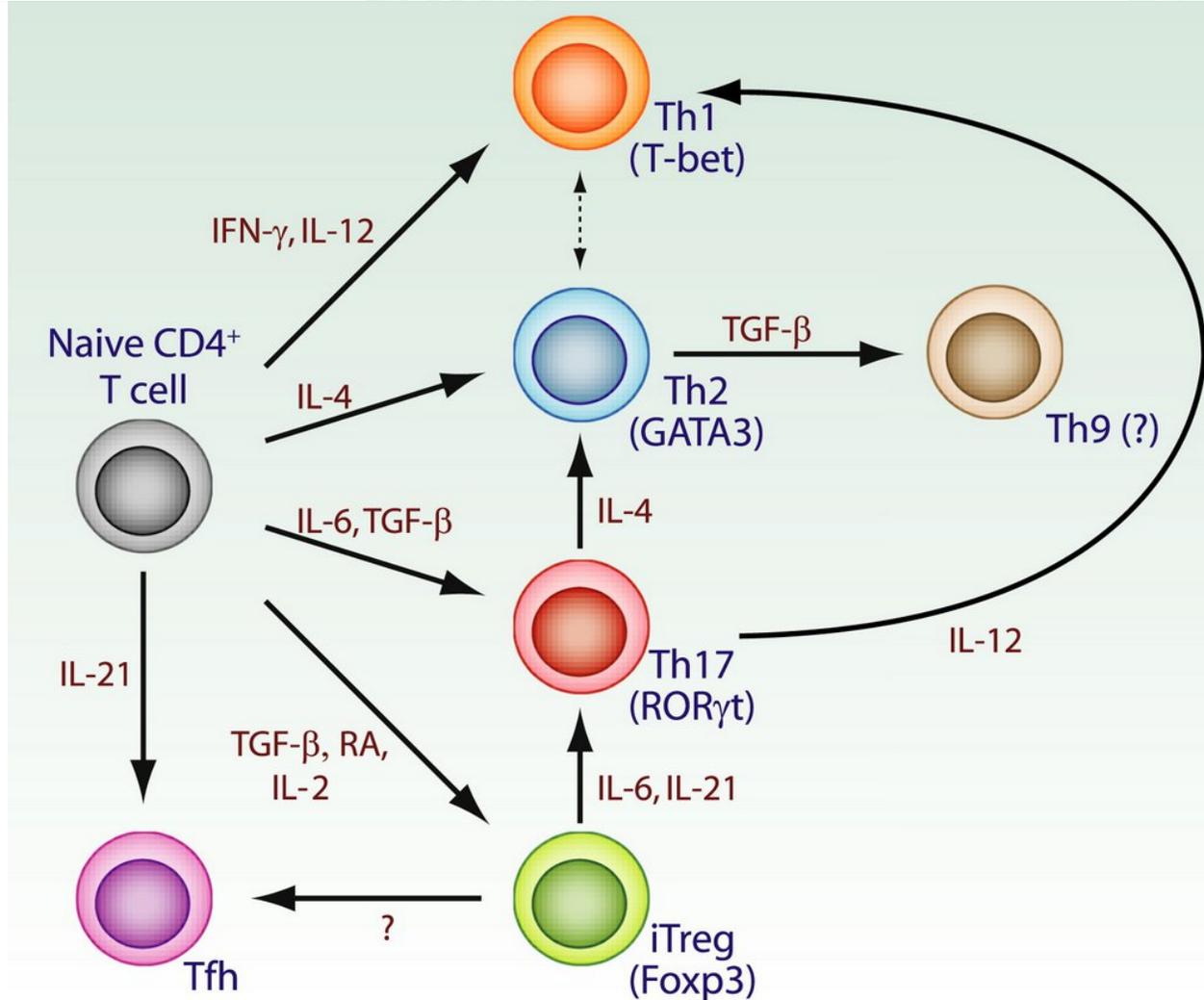
- infections parasitaires
- allergies

- infections intracellulaires
- réponses anti-tumeur
- autoimmunité

- infections au niveau des barrières épithéliales
- autoimmunité

- immunosuppression / anti-inflammatoire

Polarisation et plasticité des lymphocytes T CD4⁺



induction et polarisation de lymphocytes T par le microbiote intestinal

Atarashi, Science, 2011 ;
Nature, 2013

Clostridia

Xu et al., Nature, 2019

H. hepaticus

Round and Mazmanian, PNAS, 2010

B. fragilis (PSA)

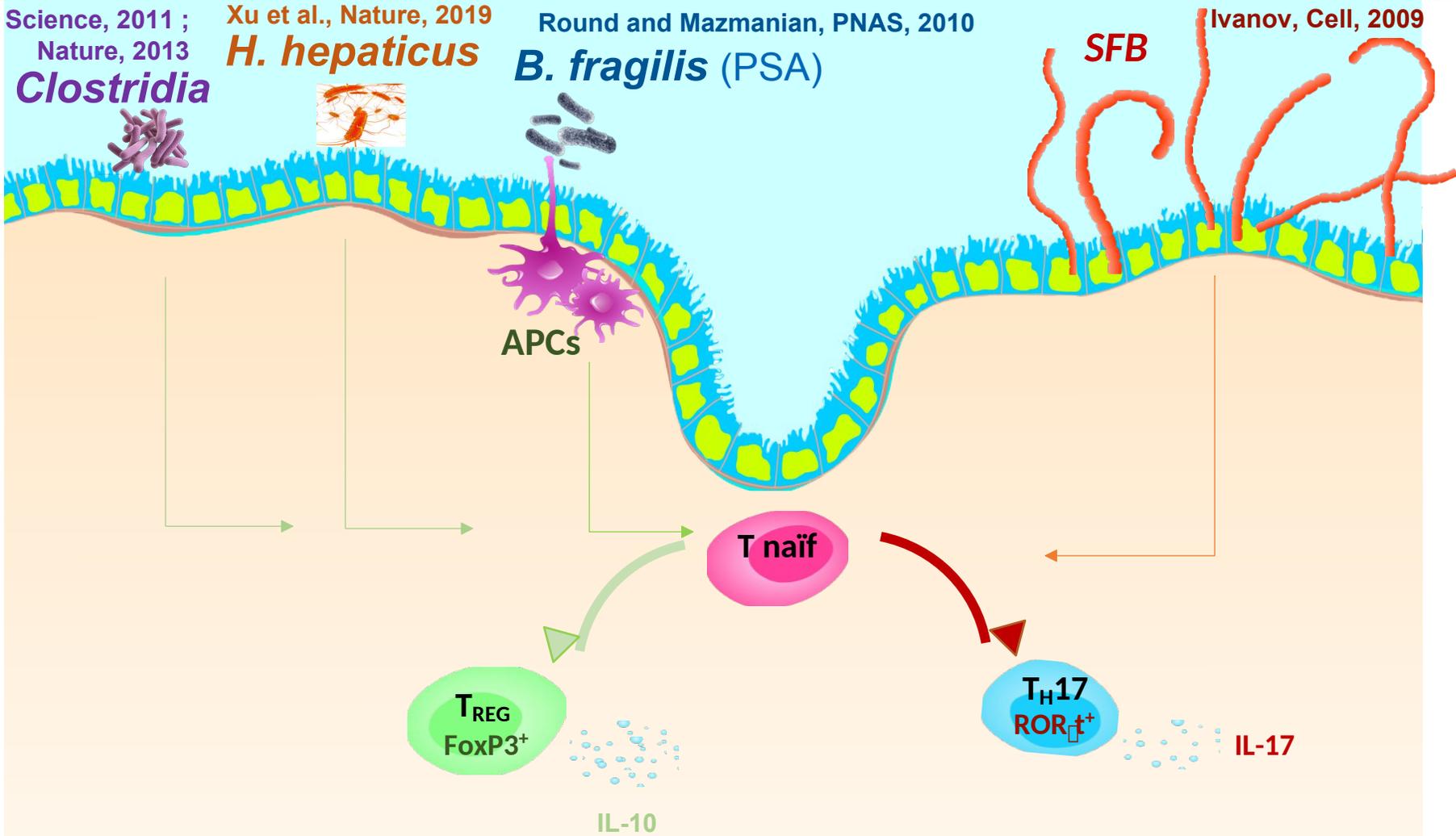
Ivanov, Cell, 2009

SFB

lumière
intestinale

épithélium

lamina
propria

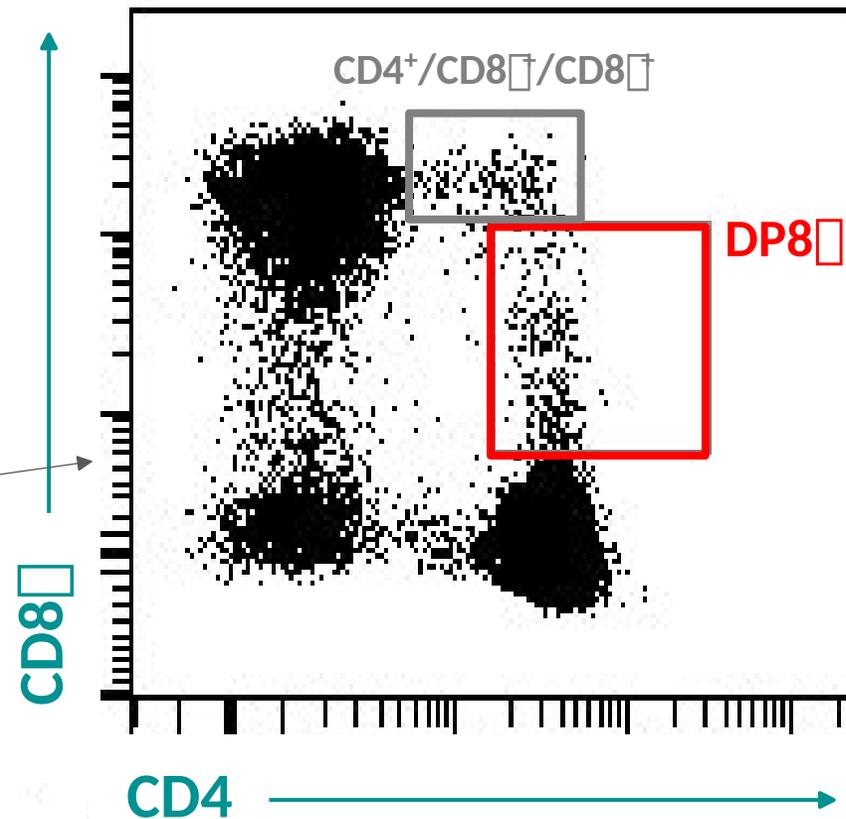
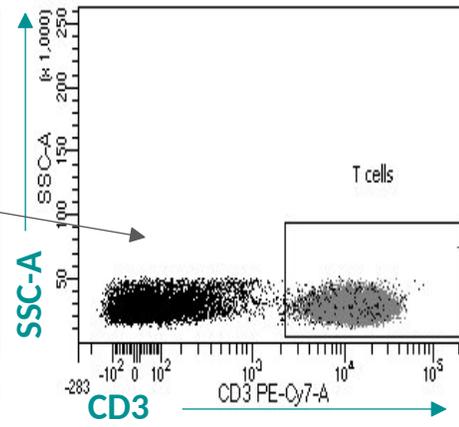
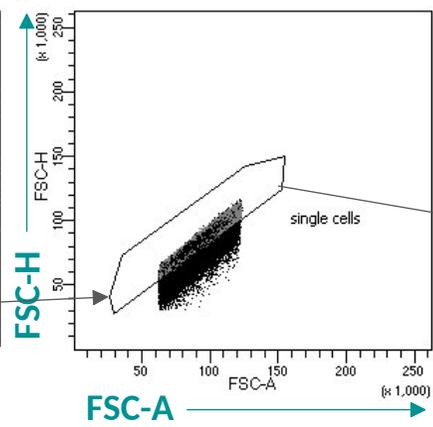
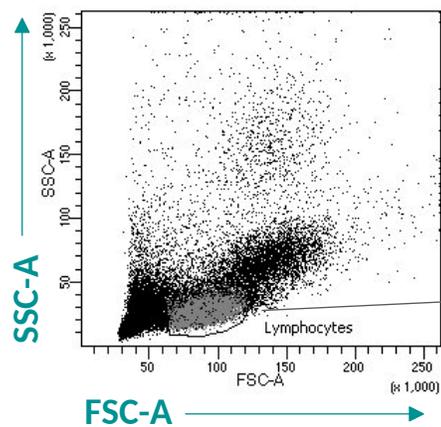


Cellules DP8 \square humaines

sélection des lymphocytes

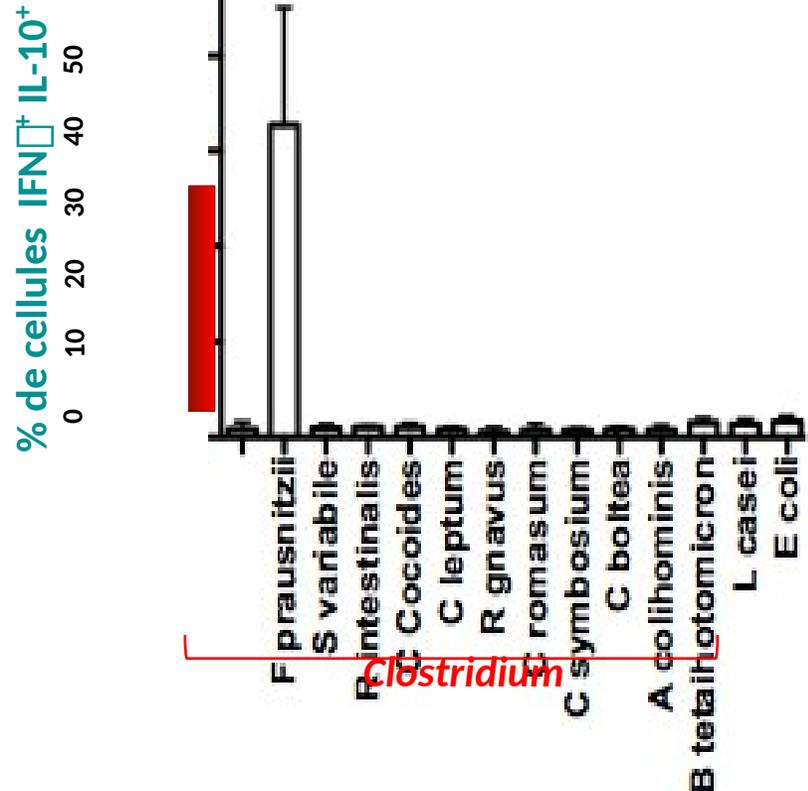
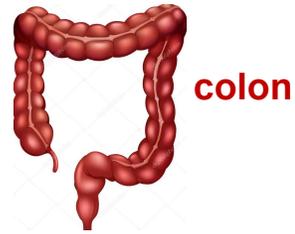
sélection des «singulets»

sélection des cellules T



Les cellules DP8 α répondent à *Faecalibacterium prausnitzii*

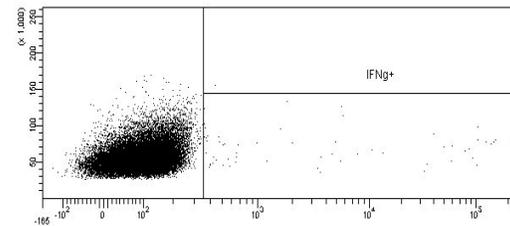
cellules DP8 α
issues de la
lamina propria (LPL) du colon



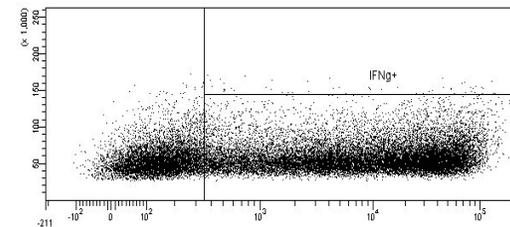
clones DP8 α dérivées
du sang (PBL)



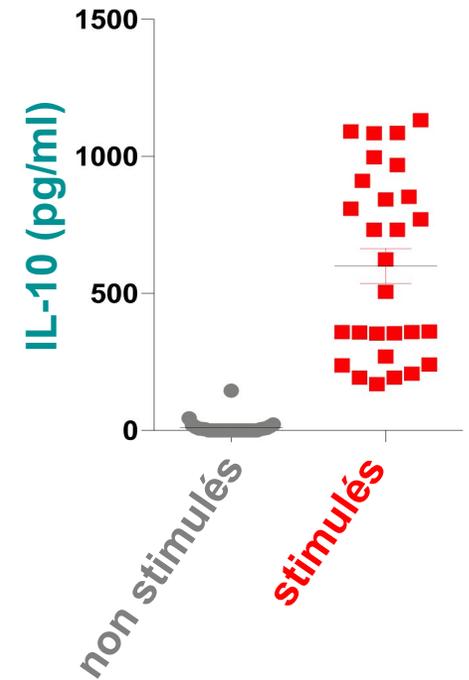
pas de bactérie



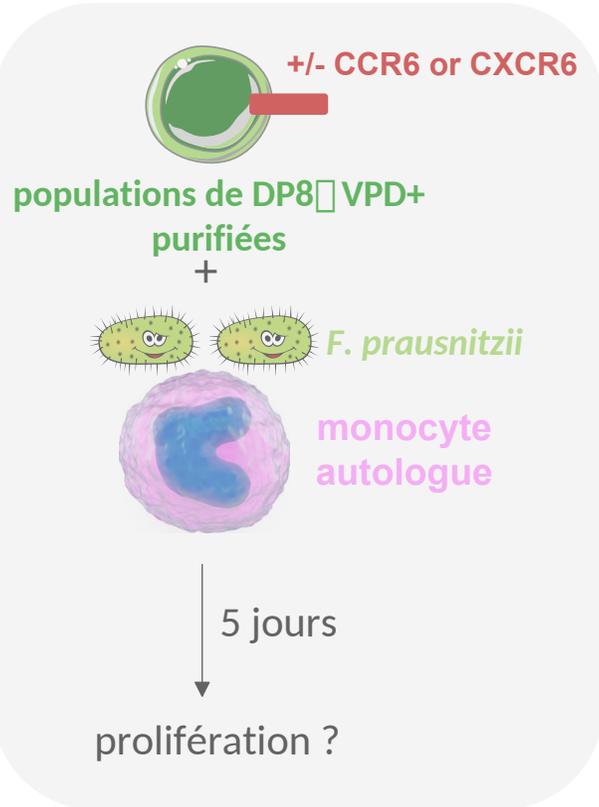
+ *F. prausnitzii*



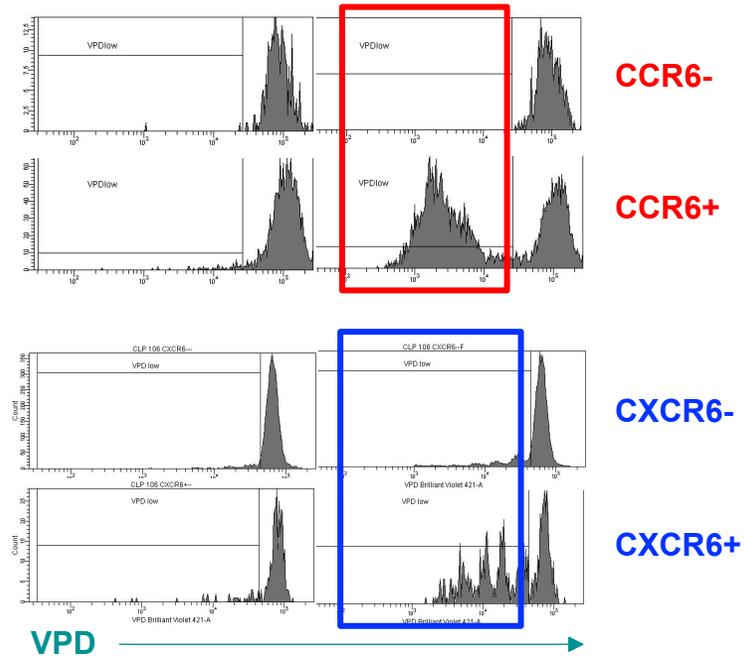
IFN γ →



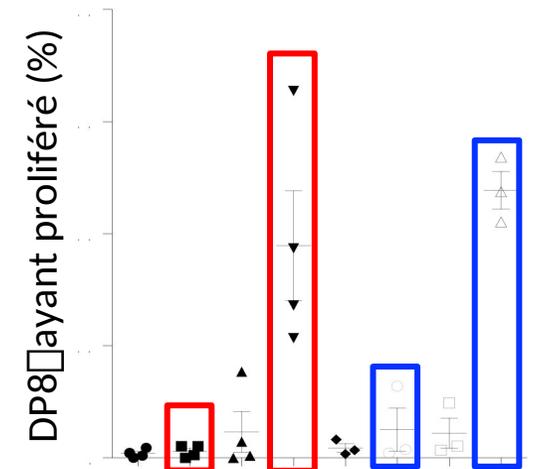
Les cellules DP8⁺ spécifiques de *Faecalibacterium prausnitzii* expriment CCR6 et CXCR6 (1/2)



monocytes monocytes chargés avec *F. prausnitzii*



exemple représentatif

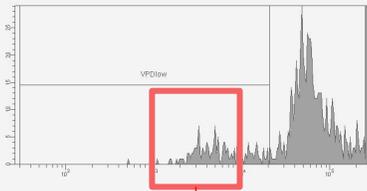


toutes les données

Les DP8⁺ CCR6⁺ et CXCR6⁺ contiennent les cellules spécifiques de *F. prausnitzii*

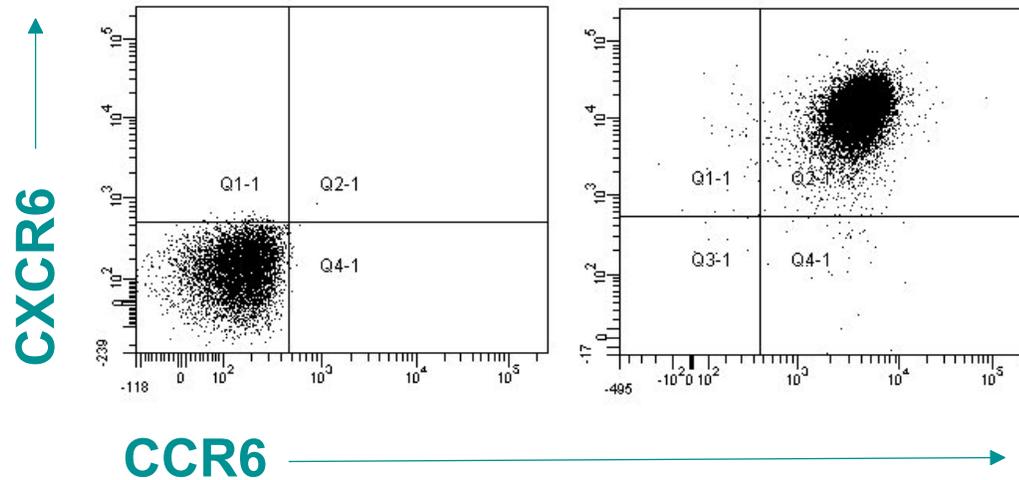
Les cellules DP8 α spécifiques de *Faecalibacterium prausnitzii* expriment CCR6 et CXCR6 (2/2)

cellules DP8 α stimulées par *F. prausnitzii*

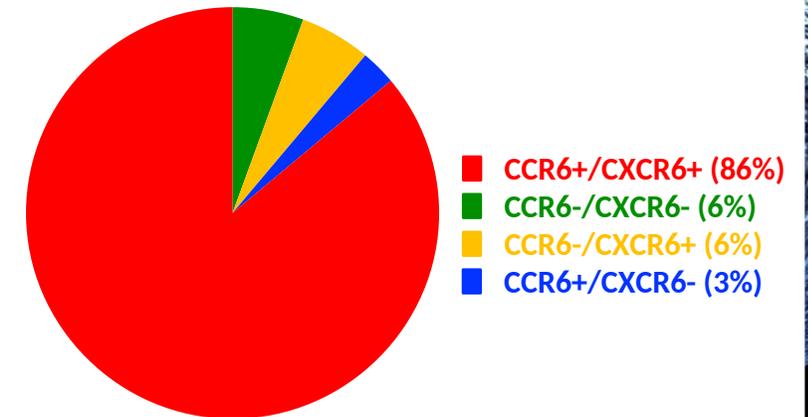


VPD

CLONAGE



clone DP8 α représentatif



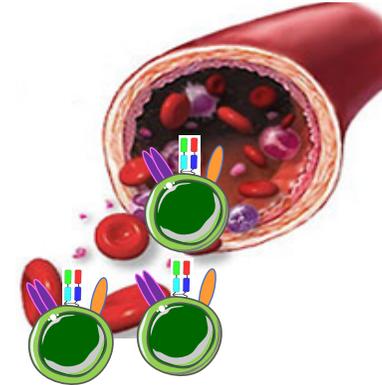
tous les clones (n=36)

La grande majorité des clones DP8 α spécifiques de *F. prausnitzii* expriment CCR6 et CXCR6

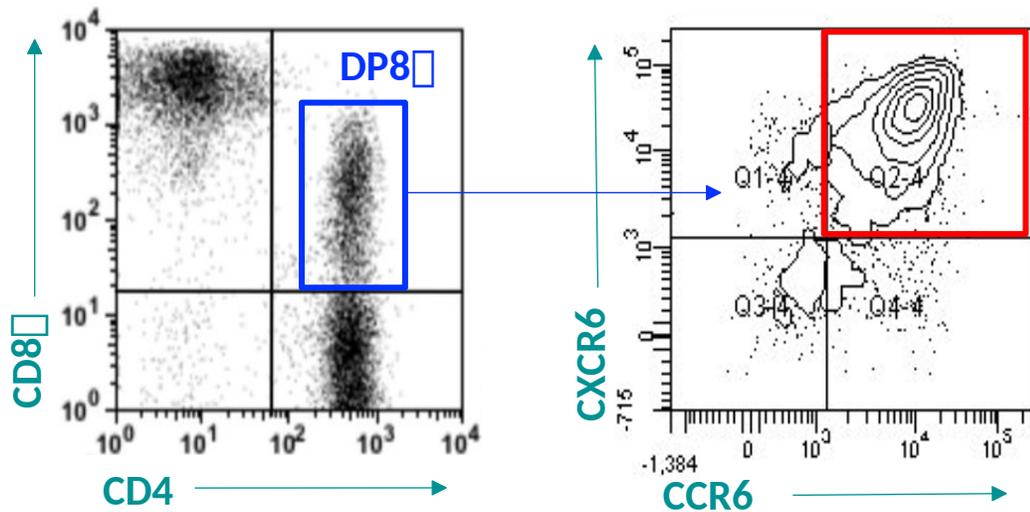
Les DP8⁺ CCR6⁺/CXCR6⁺ dans le colon et le sang humain



Colon

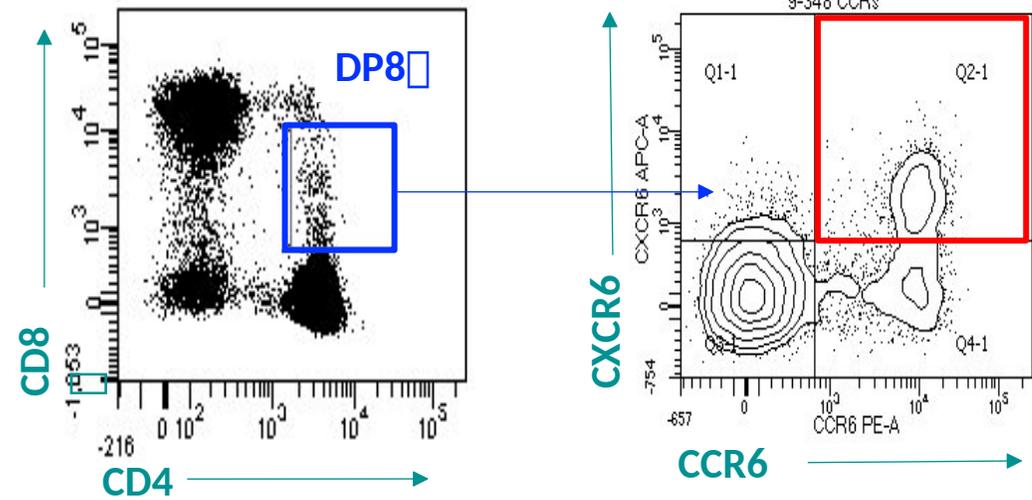


Sang



~10% des LPL CD3⁺

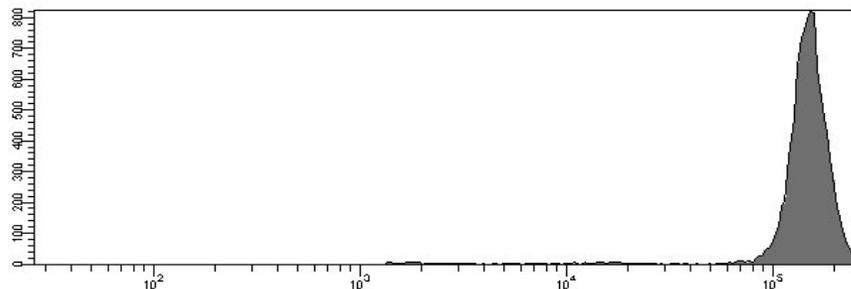
>80% des DP8⁺



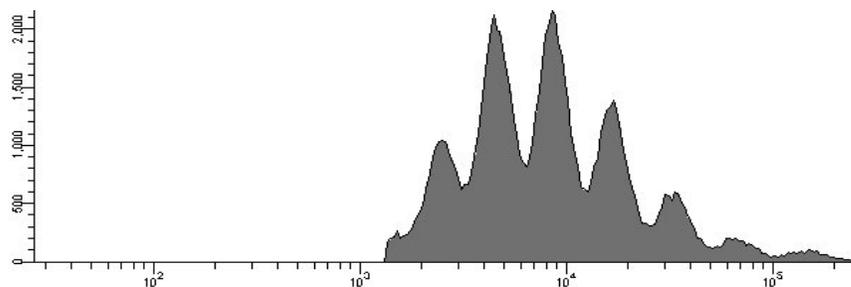
~1,5% des PBL CD3⁺

~20% des DP8⁺

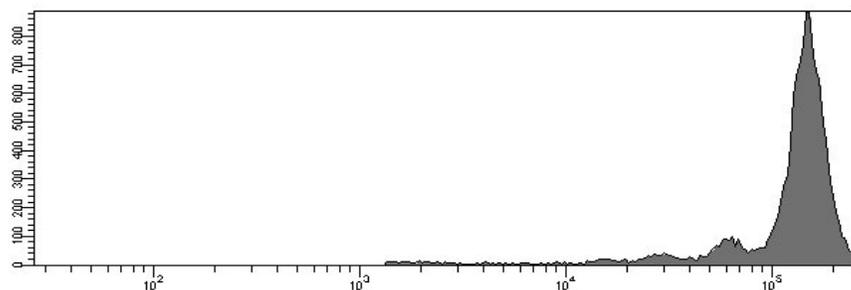
Les T DP8 α spécifiques de *F. prausnitzii* sont régulateurs



CD4 VPD+ non stimulées



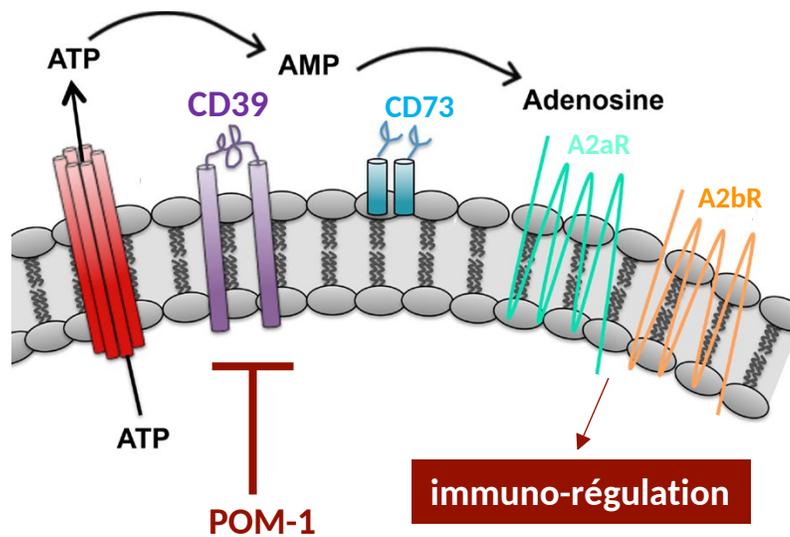
CD4 VPD+ stimulés par des billes CD3/CD28



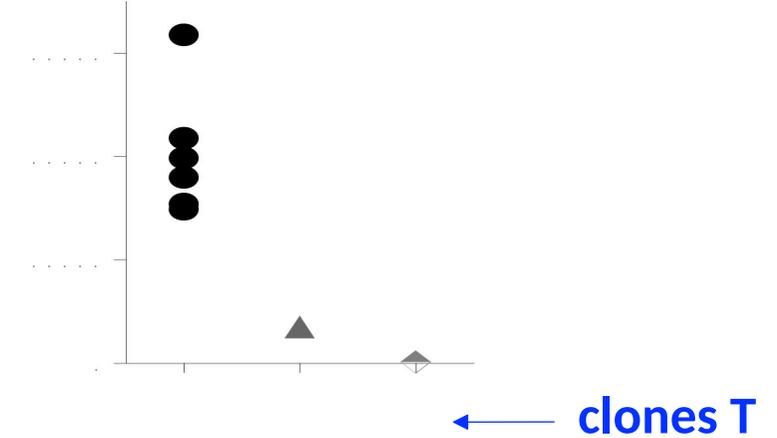
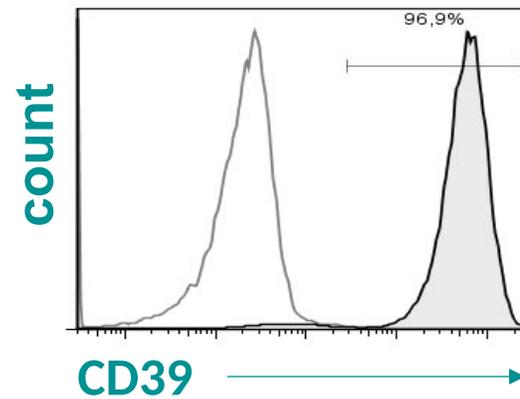
**CD4 VPD+ stimulés par des billes CD3/CD28
+ clone DP8 α**

VPD \longrightarrow

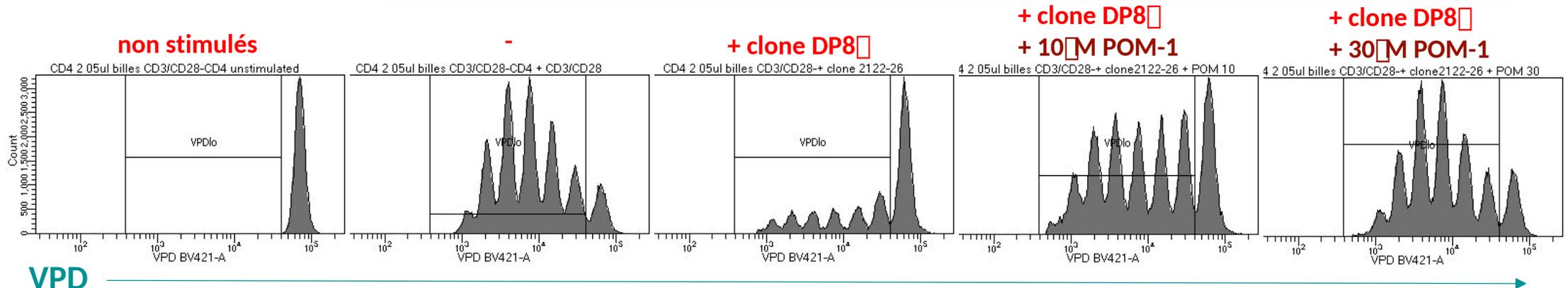
La fonction régulatrice des T_{REG} DP8 α dépend de CD39



Clone DP8 α

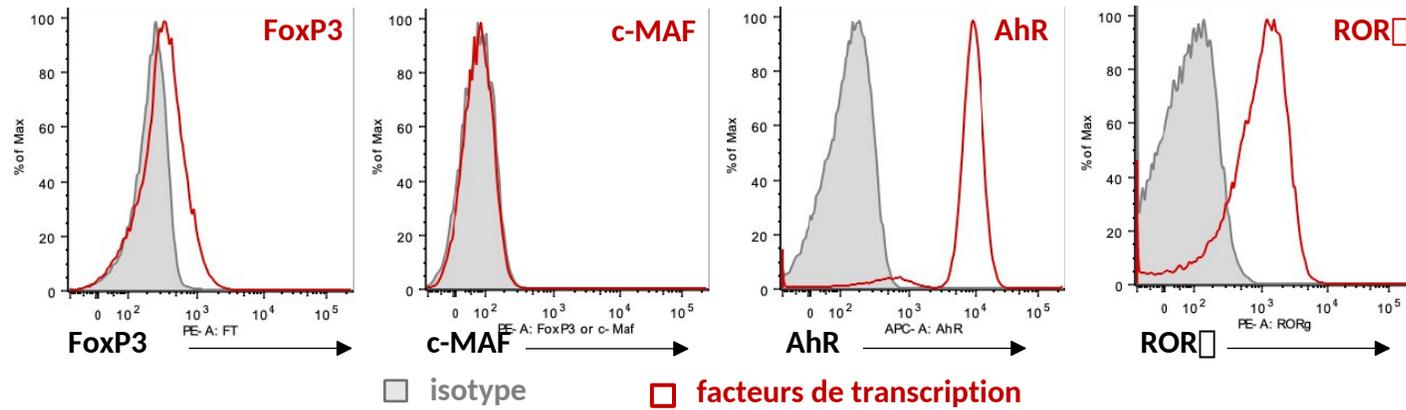


Stimulation CD3/CD28

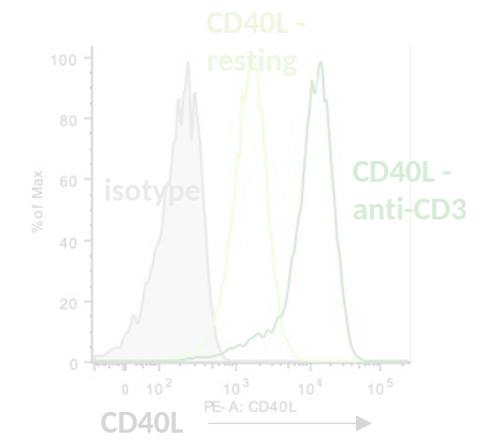


Caractérisation des clones de T_{REG} DP8

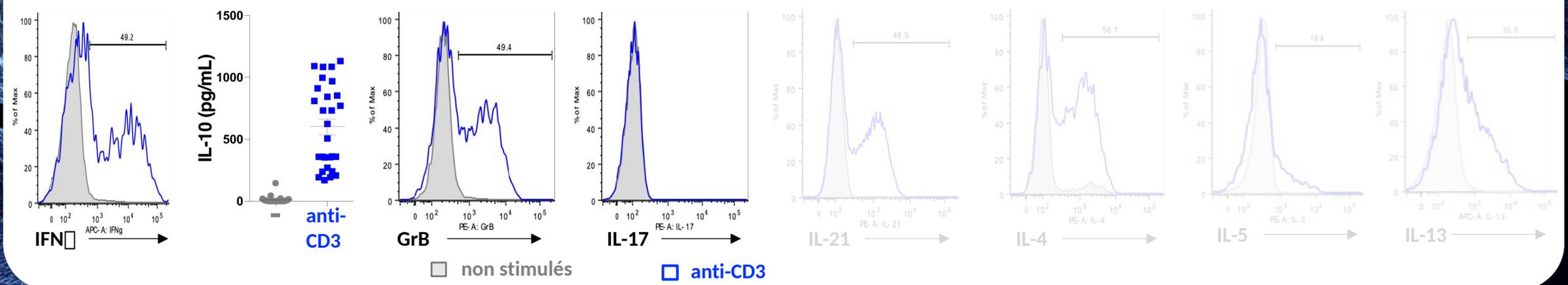
FACTEURS DE TRANSCRIPTION



MOLECULE DE SURFACE



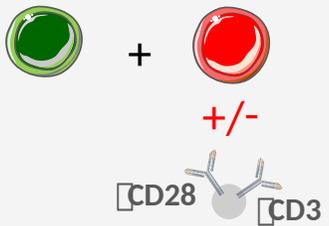
CYTOKINES



Les T_{REG} DP8⁺ influencent les réponses B

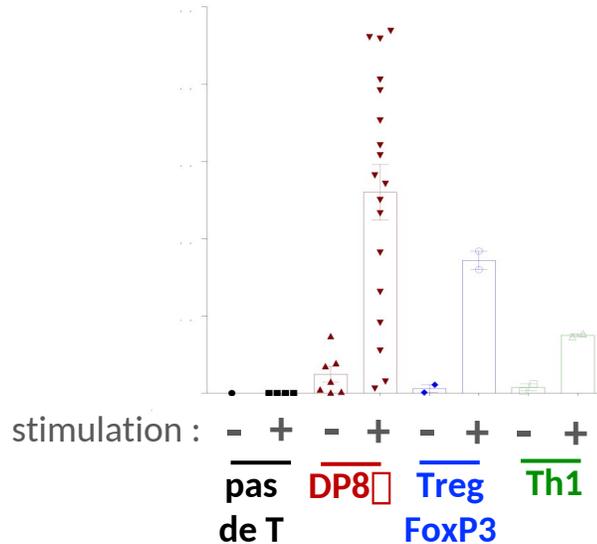
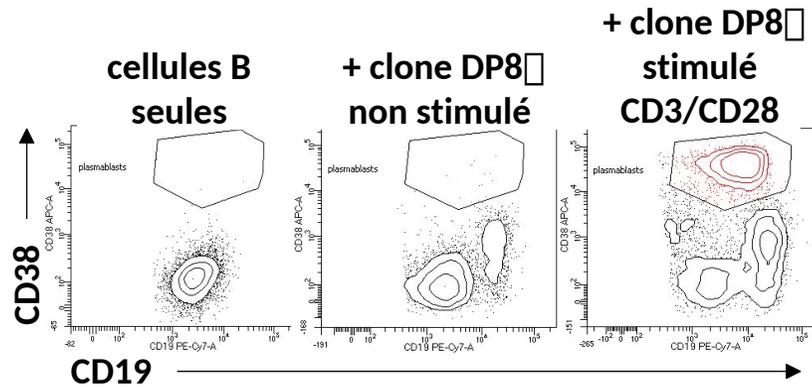
induction de plasmablastes

cellules B + clone T



8-10 jours

- plasmablastes ?
- production d'Ig?



production d'Ig

