## Gut microbial bile acid metabolites modulate Ccl21 expression in the thymus

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BLAVATNIK INSTITUTE BIOLOGICAL CHEMISTRY & HARVARD MEDICAL SCHOOL MOLECULAR PHARMACOLOGY

R = OH or H

Host

T\_17

P < 0.000\*

P < 0.000

S. Hang et al., Nature (2019

1.00

0.75

0 50

0.25

0.00

Heart Uney Ling MIN Serun

W. Li et al., Cell Host Microbe (2020) D. Paik et al., Nature (2022)

<sup>2</sup>Immunology Department, Harvard Medical School

13C-BAs (Thymus)

Day 3

200 100

Log<sub>2</sub> fold change

-50 -25 0.0 2.5 5.0

Treatment group

PBS

• 13C-CA

13C-CDC/

Add DCA-supplemented or

control chow

Day 0

GF B6 mice

1. Control chow 2. DCA-suppl. chow

Day 4:

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Treatment of germ-free (GF) mice with secondary bile acid DCA

induces Ccl21 expression in the thymus

DCA (%)



Seruh whith city peer breat une poor

0.0 0.1 0.2 03 0.4

> rv BA co ntratio



PhD in Biological and



DCA (conc.)

Control

DCA-cho

bìo

siet Jeaac Chiu Marco Joe

## Bile acid receptor TGR5 is expressed proximal to CCL21+ mTECs



## **Ongoing and Future Work**



HMS MicBoN Core

DAC Me