



GPR41

[2] [1] [2]

G [3] GPR41^[3]
1 [4]

Gut Microbes 5 2

-GPR41



1

3

[5]

2

[6]

- 1 Lambrecht BN, Hammad H. The immunology of asthma. *Nat Immunol.* 2015 Jan;16(1):45-56.
- 2 Lambrecht BN, Hammad H. The immunology of the allergy epidemic and the hygiene hypothesis. *Nat Immunol.* 2017 Sep 19;18(10):1076-1083.



3

4

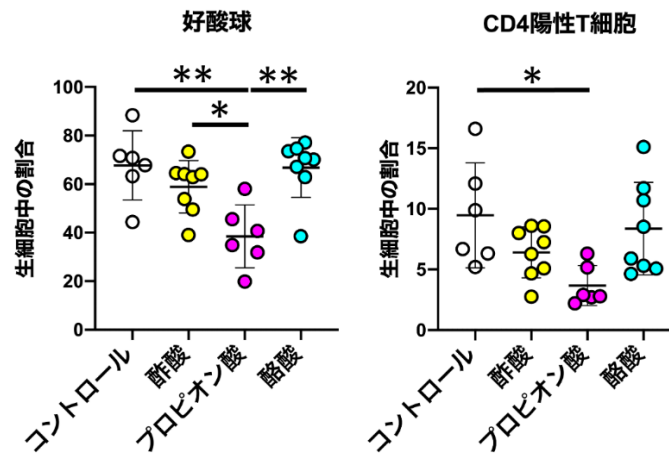
1

3

6

[7] CD4 T [7]

1



1

CD4 T

* $p < 0.05$ ** $p < 0.01$

G

GPR41

GPR43^[3]

GPR41

GPR43

Gpr41

Gpr43

Gpr43

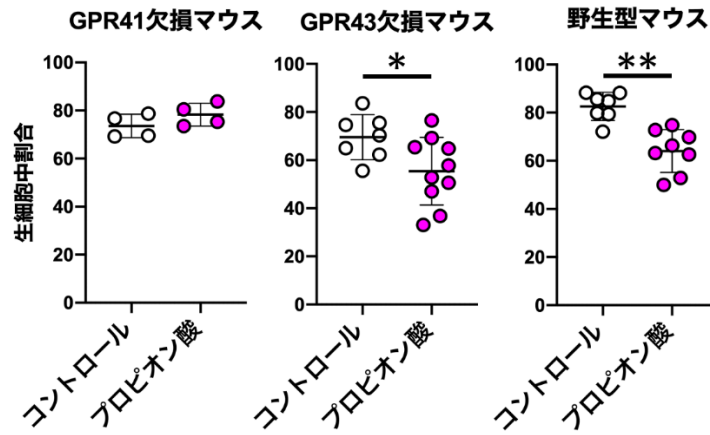
2

Gpr41

2

GPR43

GPR41



2

Gpr41

Gpr43

* $p < 0.05$ * $p < 0.01$

GRP41

PCR [8]

Gpr41 mRNA

Gpr41 mRNA

3

GPR41

RNA

[9]

GO

[10]

GO

Toll

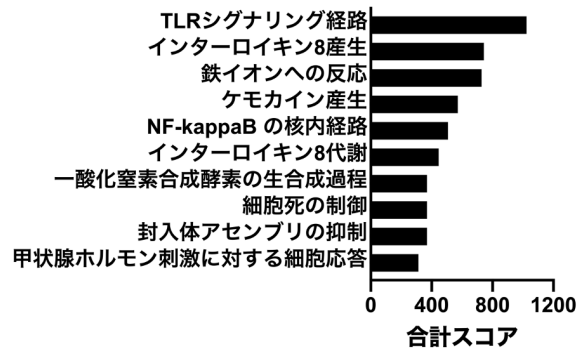
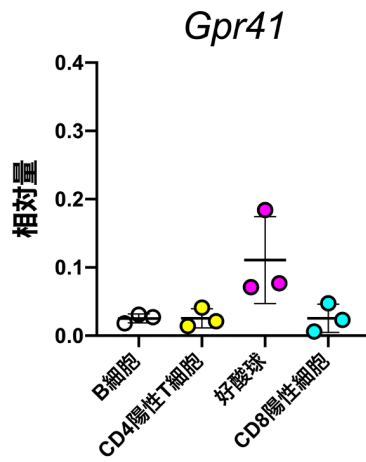
TLR

[11]

TLR

GPR41

3



3 GPR41

Gpr41 mRNA

GO

TLR

16S rRNA

[12]

181

5

23

[13]

1

4

16S rRNA

30

Varibaculum

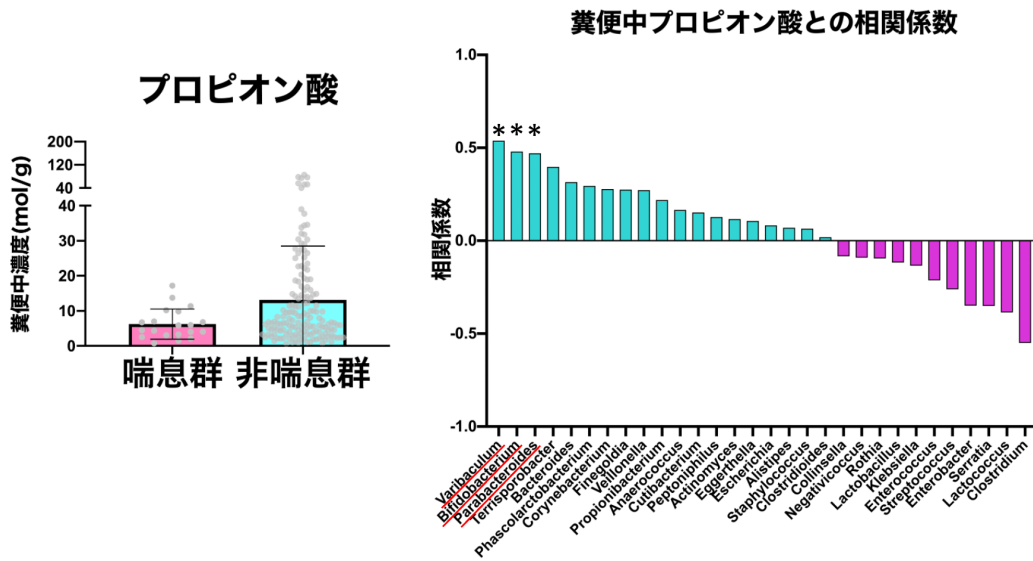
Bifidobacterium

Parabacteroides

4

3

[14]



4

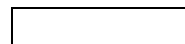
16S rRNA

Varibaculum *Bifidobacterium* 1 *Parabacteroides* 3
 * $p < 0.05$

2

The propionate-GPR41 axis in infancy protects from subsequent bronchial asthma onset

Takashi Ito, Yumiko Nakanishi, Ryohei Shibata, Noriko Sato, Toshi Jinnohara, Sayo Suzuki, Wataru Suda, Masahira Hattori, Ikuo Kimura, Taiji Nakano, Fumiya Yamaide, Naoki Shimojo, and Hiroshi Ohno



Gut Microbes

DOI

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[1]

[2]

[3] G
G

GPR41 GPR43

GPR41 GPR43 G

GPR41 GPR43

[4]

[5]

100

[6]

[7]

CD4 T

CD4 T

B



[8] PCR
DNA mRNA

[9] RNA
RNA

RNA

RNA

[10] GO

Gene Ontology

GO

[11] Toll

TLR

Toll

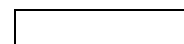
TLR Toll Like Receptor

[12] 16S rRNA
DNA

16S rRNA

[13]

[14]



JSPS

AMED

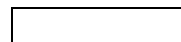
AMED-CREST

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