

Obesitas & Gut Microbiota

Oleh :

DR.dr. Nanny Djaja.MS.Sp GK

LOSING WEIGHT IS A MIND GAME.
**CHANGE YOUR MIND,
CHANGE YOUR BODY.**

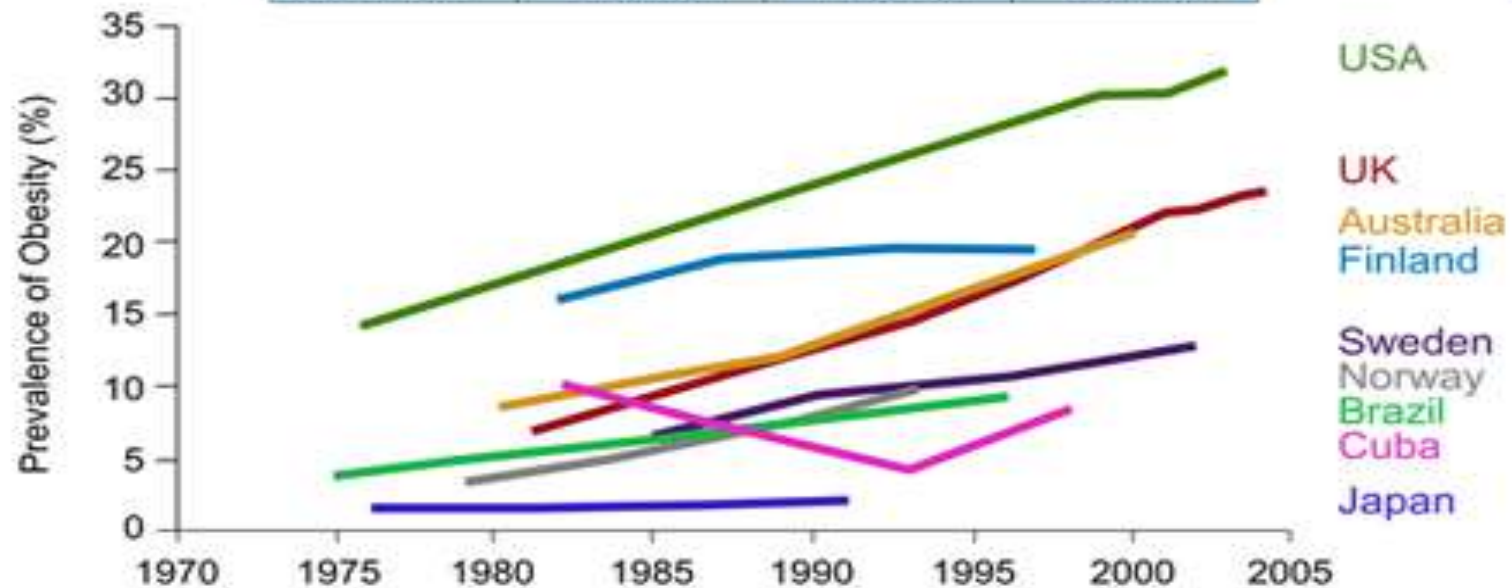


**Remember the Fitness Nutrition 80:20 rule.
What goes into your mouth accounts for
80% of how you look. - Nate Miyaki**

Prevalensi Obesitas

Global Increase in Obesity

	2002	2007	2015
Obese	356 million	523 million	704 million
Overweight	1.4 billion	1.5 billion	2.3 billion



Overweight, body mass index (BMI) ≥ 25 kg/m²; obese, BMI > 28 kg/m² (Asian) or > 30 kg/m².
James WP. *J Intern Med.* 2008;263(4):336–352.

Visceral Fat?

ESTETIC or HEALTHY



Gender	Ideally circle waist
Female	< 80 cm
Male	< 90 cm



Am J Gastroenterol Suppl 2012;1-22-27

Impact of the Gut Microbiota on the Development of Obesity: Current Concepts

John K. DiBaise, MD¹, Daniel N. Frank, PhD² and Ruchi Mathur, MD, FRCPC³

Am J Gastroenterol Suppl 2012; 1:22-27; doi:10.1038/ajgsup.2012.5

Nutrients 2015, 7, 17-44; doi:10.3390/nu7010017

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Review

The Impact of Diet and Lifestyle on Gut Microbiota and Human Health

Michael A. Conlon * and Anthony R. Bird

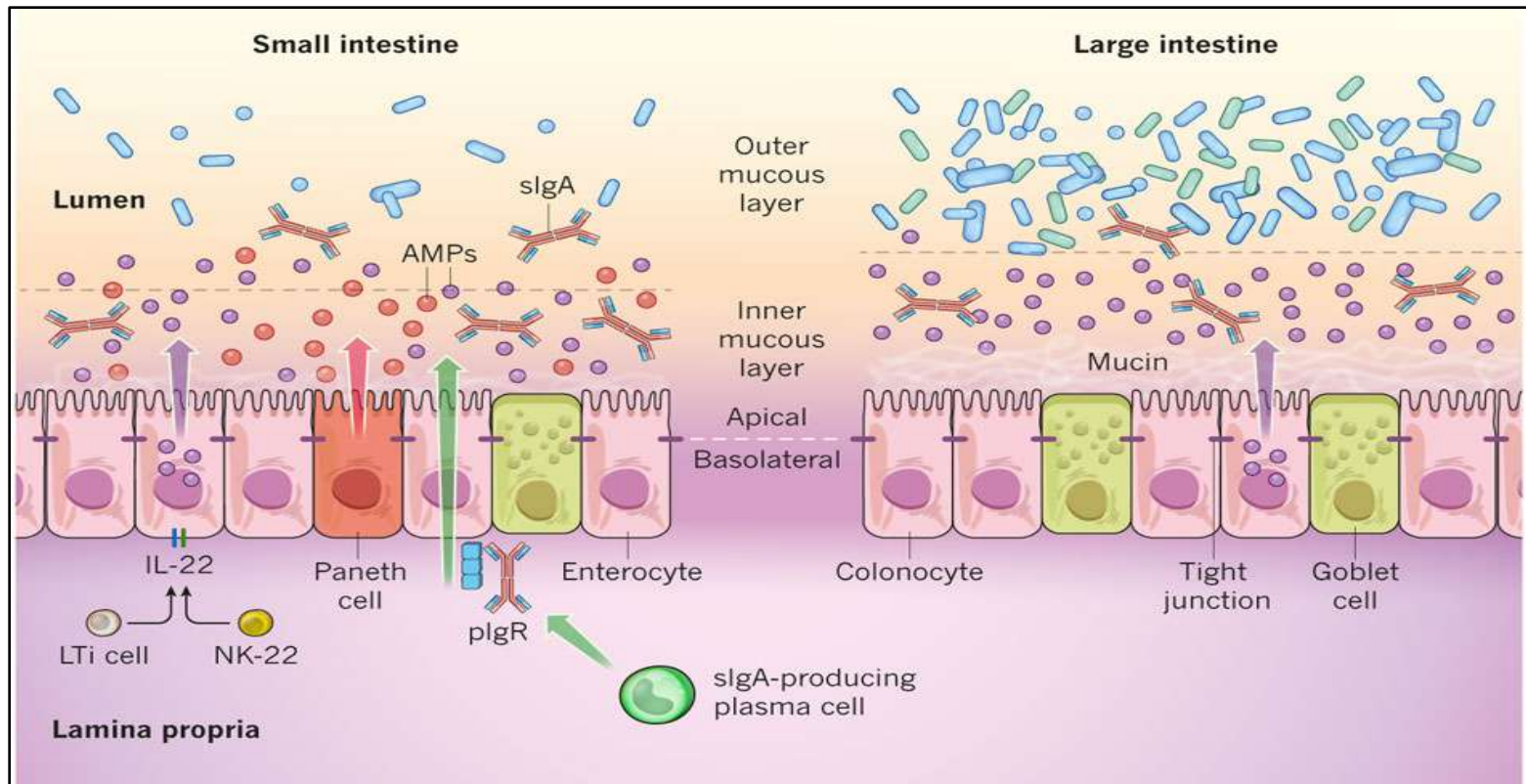
CSIRO Food and Nutrition Flagship, Kintore Ave, Adelaide, SA 5000, Australia;

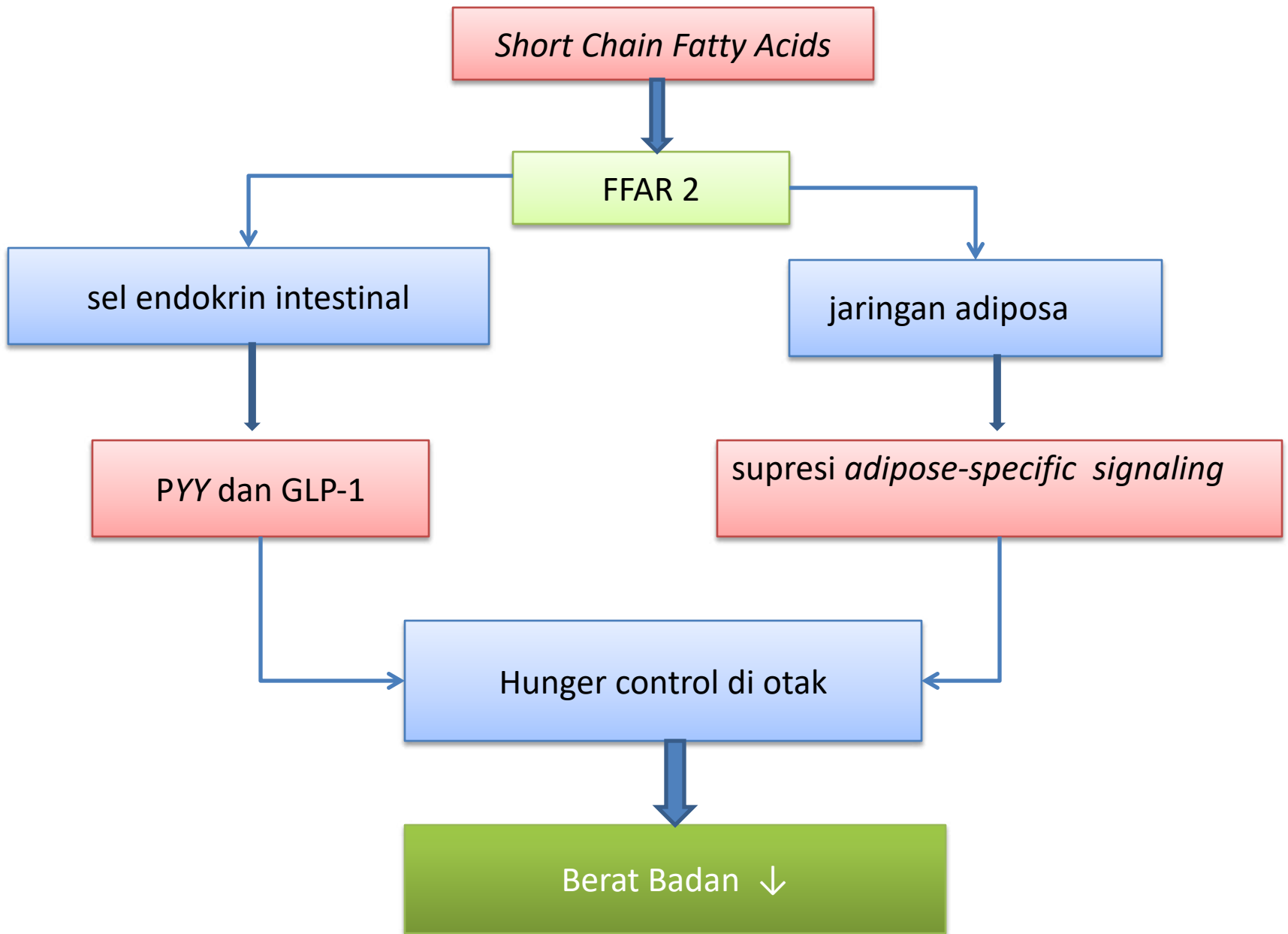
E-Mail: tony.bird@csiro.au

Setiap orang memiliki komunitas mikrobiota yang berbeda

Lapisan Epitel Usus Besar

Nature 489.7415 (2012), pp. 231–241.





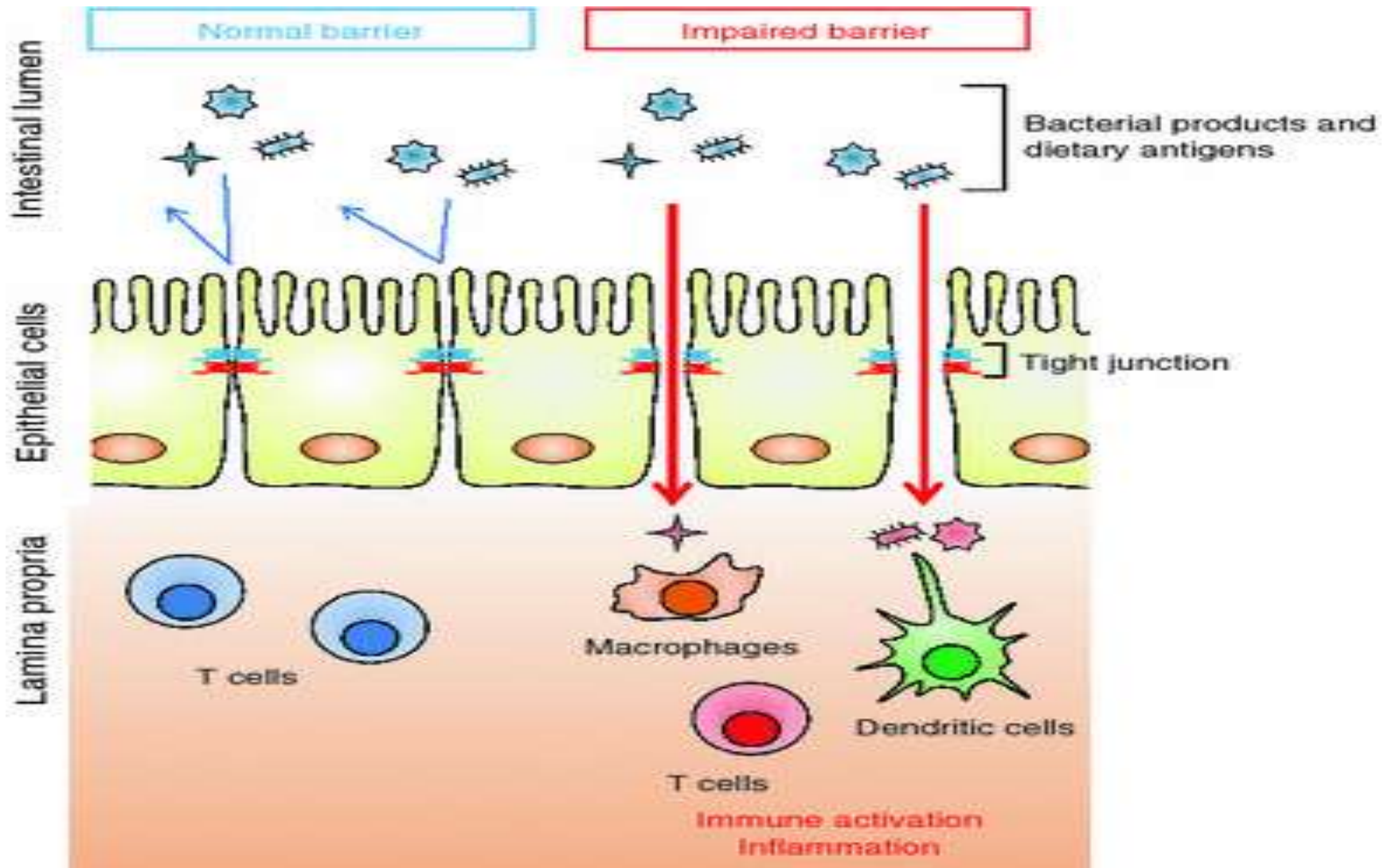


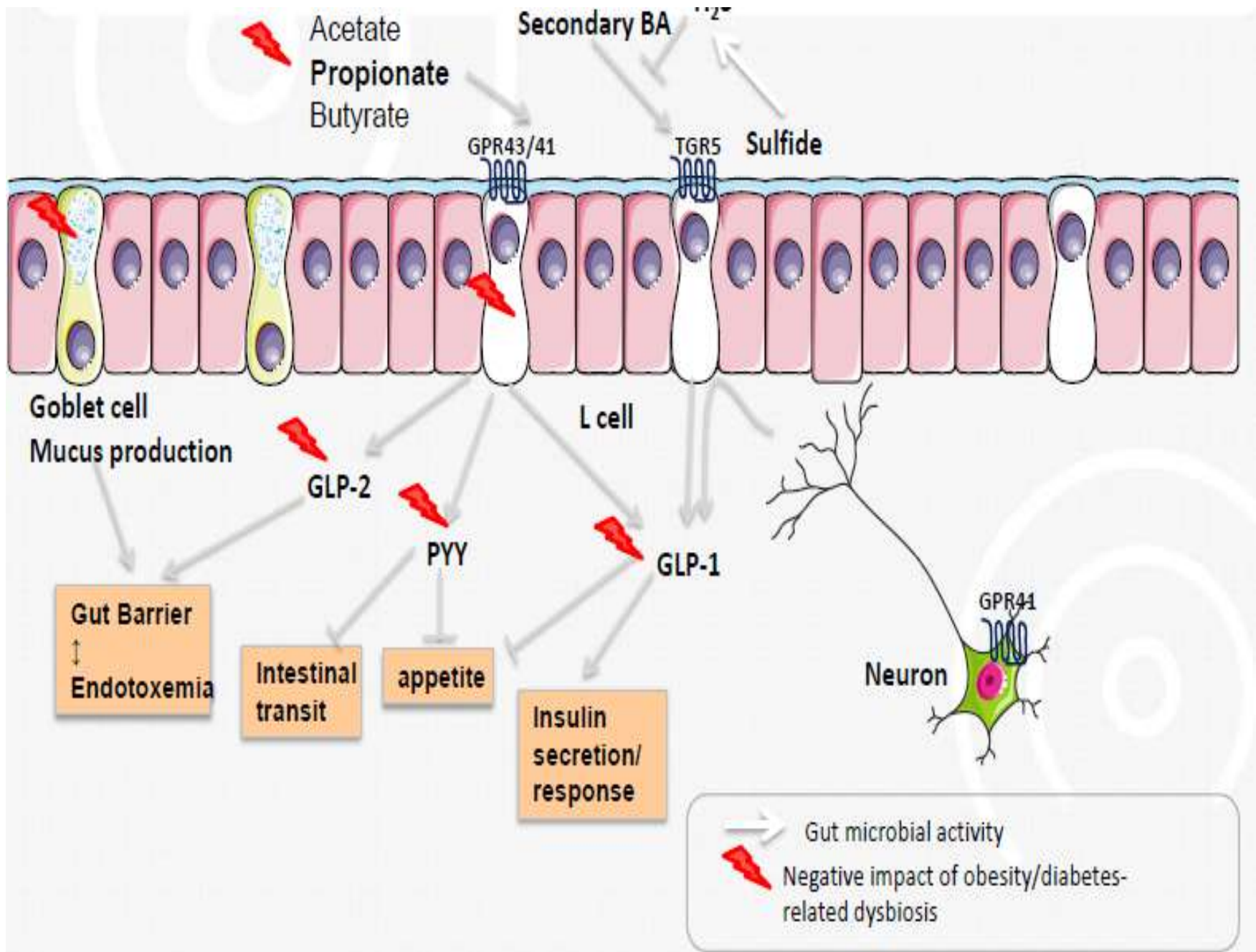
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graph TD; A([Obesity]) --> B([Dysbiosis]);
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Obesity

Dysbiosis

Cell. Mol. Life Sci. (2013) 70:631–659





Acetate
Propionate
Butyrate

Secondary BA

Sulfide

GPR43/41

TGR5

Goblet cell
Mucus production

L cell

GLP-2

PYY

GLP-1

Gut Barrier
↑
Endotoxemia

Intestinal
transit

appetite

Insulin
secretion/
response

Neuron
GPR41

→ Gut microbial activity
⚡ Negative impact of obesity/diabetes-related dysbiosis



Review

Obesity and Metabolic Syndrome

Diabetes Metab J 2015;39:291-303

<http://dx.doi.org/10.4093/dmj.2015.39.4.291>

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DIABETES & METABOLISM JOURNAL



Probiotics as Complementary Treatment for Metabolic Disorders

Mélanie Le Barz^{1,2,3}, Fernando F. Anhé^{1,2}, Thibaut V. Varin², Yves Desjardins², Emile Levy^{2,4,5}, Denis Roy², Maria C. Urdaci³, André Marette^{1,2}

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Karakteristik Subjek Penelitian

Variabel	Yogurt n = 30
Usia (tahun)	44,87 ± 6,64
Kelompok usia	
< 50 tahun, n(%)	20 (66,67)
≥ 50 tahun, n(%)	10 (33,33%)
Jenis kelamin	
- Laki-laki, n(%)	16/30 (53,33)
- Perempuan, n(%)	14/30 (46,67)

Karakteristik Subjek Penelitian

Variabel	Yogurt n = 30
IMT (kg/m ²)	24,87 ± 2,56
Status gizi menurut IMT	
-BB kurang (IMT<18,5), n(%)	-
-BB normal (IMT18,5-22,9), n(%)	9 (30)
-BB lebih (IMT>23), n(%)	21 (70)

Perbedaan Rerata Berat Badan & IMT
setelah 12 minggu intervensi yogurt 100 ml/H

		sebelum	sesudah
BB /kg	yogurt	64,52 ± 9,89	63,51 ± 10,02
IMT /kg/m ²			
	yogurt	24,87 ± 2,56	24,56 ± 2,62

Kadar GLP-1

		sebelum	sesudah
GLP-1 (pmol/L)	yogurt	1,81 ± 0,70	1,90 ± 0,74

High Protein → Body Weight

Mechanism of Action in body

- **Satiety** → modulated by receptor mu-opiod. **Diet Protein** → **stimulate** mu-opiod receptor → feeling satiated
- Peptide will send a signal to brain and brain send back signal to intestine → release glucose and **suppress the appetite** (Mithieux, 2012)
- Due to high protein will give satiety effect for long time compare Fat and CHO → **reduce calorie consumption for long time**



Management Weight Loss

**Low Karbo (40%)
Protein 30%
Fat 30%
Serat 30-35 g/H
(Prebiotik)**

**Olah Raga 4 x
seminggu
@ 30 menit**

Probiotik

