

P Defend airways against pathogens
(as competitors and as production
of bacteriocins)

Lungs

Brain

Indirect roles through:

- Activation of the vagus nerve
- Activation of the immune system
- Secretion of neurotransmitters

P Production of defensive anti-
microbial peptides

- S** Wound healing
- S** Inflammation control
- S** Immune system development

Skin

Gut

- P** Pathogen displacement
- P** Antimicrobial factors

- S** Barrier fortification
- S** Tightening of junctions
- S** Immune system development

- M** Vitamins synthesis
- M** Metabolize carcinogens
- M** Ferment non-digestible residues
- M** IEC differentiation & proliferation
- M** Metabolite transformation and
absorption

P Protective functions

S Structural functions

M Metabolic functions

