

Exploration of psychobiotic compounds & precursors in fermented foods and their association to the human-gut axis

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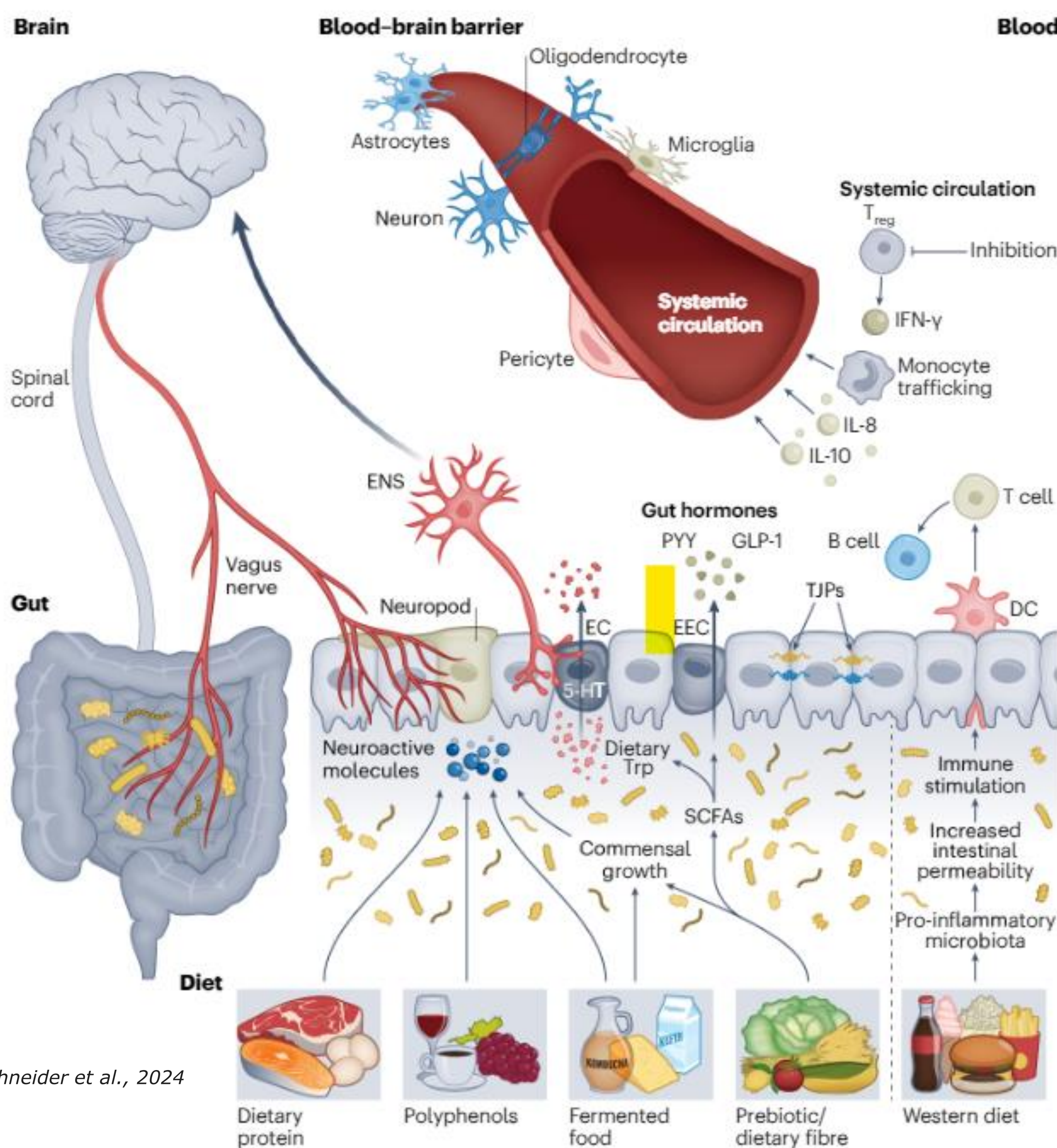
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Psychobiotics

- Any bacterially mediated exogenous influence
- Live/inactivated microorganisms, prebiotics
- Postbiotics: microbial metabolites, bacterial cell components
(De Filippis et al., 2020)



↓ cortisol, pro-inflammatory cytokines, gut inflammation, intestinal permeability

↑ anti-inflammatory cytokines, intestinal barrier function, blood-brain barrier function

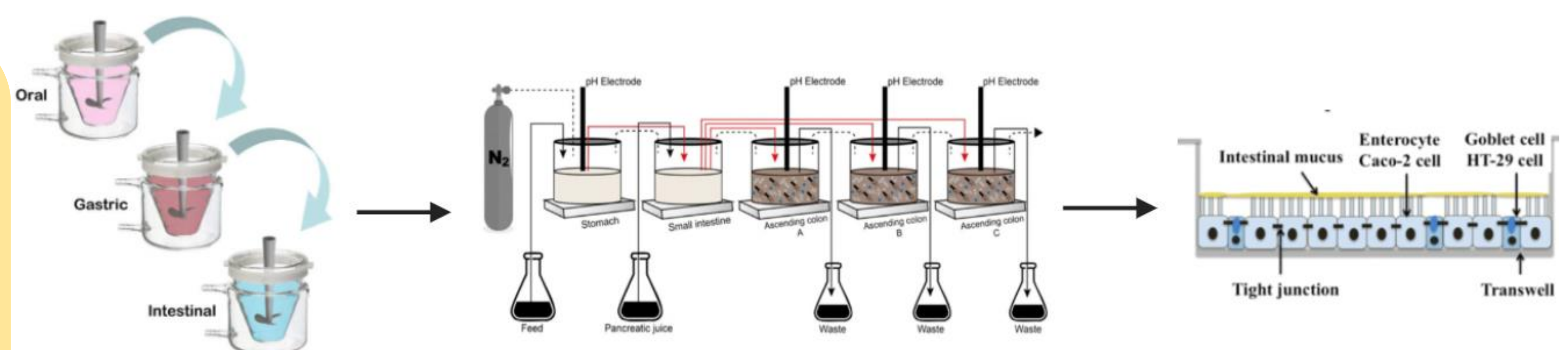
Communication through:

hormones, cytokines, neurotransmitters, SCFAs, enzymes & cell wall components
(Albuquerque Pereira et al., 2023; Sori & Khan, 2024)

Schneider et al., 2024

Objectives & potential outcomes

- Presence of psychobiotics/precursors in fermented foods
- GIT bioavailability
- Epithelial cells/mucus interactions



Materials & Methods

- Fermented food screening (fermented milk/vegetables, sourdough etc)
- Static digestion model (INFOGEST)
- Simulator of the Human Intestinal Microbial Ecosystem (SHIME®) model
- Caco-2 cell model incorporating a mucus layer



References

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