Current Opinion in Microbiology
Volume 32, August 2016, Pages 14-18

# Macrobiota — helminths as active participants and partners of the microbiota in host intestinal homeostasis

William C Gause [1] ✉, Rick M Maizels [2]



https://doi.org/10.1016/j.mib.2016.04.004



## Highlights

- Helminth worms are ancient and ubiquitous companions of vertebrate animals.
- Immune homeostasis, regulation and tissue repair are hallmarks of helminth infection.
- Microbiota influence immunologic and metabolic function.
- Cross-kingdom and -phylum communication pathways are now coming to light.

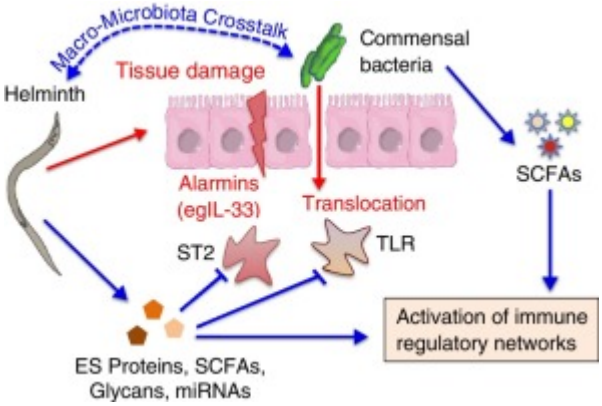
Important insights have recently been gained in our understanding of the intricate relationship in the intestinal milieu between the vertebrate host mucosal immune response, commensal bacteria, and helminths. Helminths are metazoan worms (macrobiota) and trigger immune responses that include potent regulatory components capable of controlling harmful inflammation, protecting barrier function and mitigating tissue damage. They ca

View **PDF**

Access through **your institution**

## Graphical abstract

Homeostatic interactions between helminths, commensals and the host immune system; red arrows denote pro-inflammatory pathways, blue arrow counter-inflammatory. Direct tissue damage provokes release of alarmins (IL-33, also TSLP and IL-25) and can allow bacterial translocation with consequent TLR stimulation of host cells. Helminth secreted products (ES) are known to inhibit expression of the IL-33R (ST2) and host responses to TLR ligation. In addition, both helminths and commensals maintain host immunoregulatory networks through ES products and the production of short chain fatty acids (SCFAs).




Download : Download high-res image (167KB)

Download : Download full-size image

Previous

Next

Special issue articles

Recommended articles

Citing articles (42)

View full text



About ScienceDirect

FEEDBACK

View **PDF**

Access through **your institution**