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Mucosal immune responses to pathogenic gut bacteria and the mechanisms that govern disease progression and outcome have been researched intensely for decades. More recently, the influence of the resident non-pathogenic or 'commensal' microflora on mucosal immune function and gut health has emerged as an area of scientific and clinical importance. Major differences occur in the mucosal immune response to pathogens and commensals. In part, this functional dichotomy is explained by the presence of virulence factors in pathogenic species, which are generally absent in commensals. Additionally, immunological 'unresponsiveness' towards the resident commensal microflora is thought to permit their successful colonisation and co-existence within the host gut. However, evidence of an active dialogue between members of the commensal microflora and the host mucosal immune system is rapidly unfolding. This crosstalk is likely to affect immunological tolerance and homeostasis within the gut and to explain some of the differential host responses to commensal and pathogenic bacteria.

General information
State: Published
Organisations: Rowett Research Institute
Contributors: Kelly, D., Conway, S., Aminov, R.
Number of pages: 8
Pages: 326-333
Publication date: 2005
Peer-reviewed: Yes

Publication information
Journal: Trends in Immunology
Volume: 26
Issue number: 6
ISSN (Print): 1471-4906
Ratings:
Web of Science (2019): Indexed yes
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 10.82 SJR 7.364 SNIP 2.691
Web of Science (2017): Impact factor 14.188
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 10.73 SJR 7.844 SNIP 2.788
Web of Science (2016): Impact factor 13.287
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 10.86 SJR 7.505 SNIP 2.561
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 11.55 SJR 8.096 SNIP 2.654
Web of Science (2014): Impact factor 10.399
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 10.89 SJR 7.595 SNIP 2.471
Web of Science (2013): Impact factor 12.031
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): CiteScore 11.28 SJR 7.364 SNIP 2.603
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): CiteScore 9.11 SJR 5.909 SNIP 2.281
Web of Science (2011): Impact factor 10.403
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 6.247 SNIP 2.298