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REVIEWS

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MICROBIOLOGY

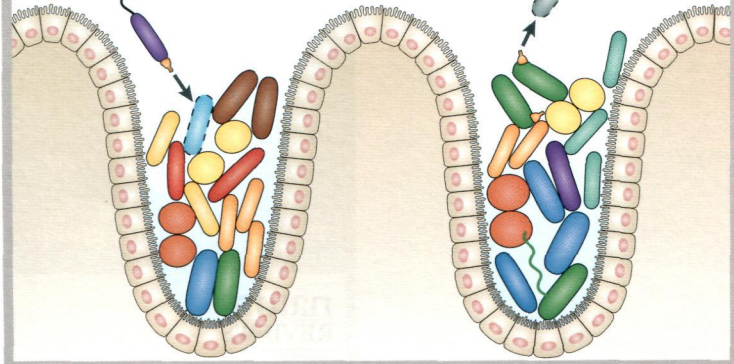


BACK AND FORTH

Translocation and back-translocation
on the bacterial ribosome

Poisons with a purpose

Microbial ecology of T6SS effectors



Competition or cooperation? p137

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- 89** **EF-G and EF4: translocation and back-translocation on the bacterial ribosome**
Hiroshi Yamamoto, Yan Qin, John Achenbach, Chengmin Li, Jaroslaw Kijek, Christian M. T. Spahn and Knud H. Nierhaus
 Nierhaus and colleagues discuss the recent structural and mechanistic insights that have improved our understanding of elongation factor G (EF-G)-mediated forward-translocation and EF4-mediated back-translocation on the bacterial ribosome.

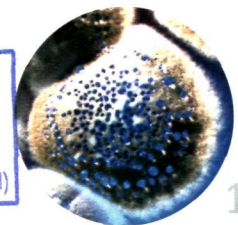
- 101** **Bacteria–autophagy interplay: a battle for survival**
Ju Huang and John H. Brumell
 Autophagy not only degrades components of host cells but can also target intracellular bacteria and thus contribute to host defences. Here, Huang and Brumell discuss the canonical and selective pathways of antibacterial autophagy, as well as the ways in which bacteria can escape from them and sometimes even use them to promote infection.

- 115** **Bacterial solutions to multicellularity: a tale of biofilms, filaments and fruiting bodies**
Dennis Claessen, Daniel E. Rozen, Oscar P. Kuipers, Lotte Søgaard-Andersen and Gilles P. van Wezel
 In this Review, van Wezel and colleagues discuss recent studies that have improved our understanding of the processes that lead to bacterial multicellularity. By considering phylogenetically diverse bacteria, the authors explore the evolutionary and ecological consequences of multicellular behaviour.

- 125** **Cell division in apicomplexan parasites**
Maria E. Francia and Boris Striepen
 Apicomplexan parasites have a complex life cycle that relies on highly regulated development inside host cells. Here, Francia and Striepen give an overview of apicomplexan cell cycle progression and cell division and the ways in which these processes are spatially and temporally guided by the centrosome in these pathogenic parasites.

- 137** **Type VI secretion system effectors: poisons with a purpose**
FEATURED ARTICLE
Alistair B. Russell, S. Brook Peterson and Joseph D. Mougous
 As more type VI secretion systems are identified and the secreted effectors are studied, it is becoming clear that they have an important role in mediating interbacterial interactions. Although the focus has mainly been on antagonistic interactions, type VI secretion systems may have physiological roles that extend beyond antagonism. Mougous and colleagues review the microbial ecology of type VI secretion, including a potential role in modulating microbial community dynamics.

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Key points provides a bullet-pointed summary of the main topics covered in each article.

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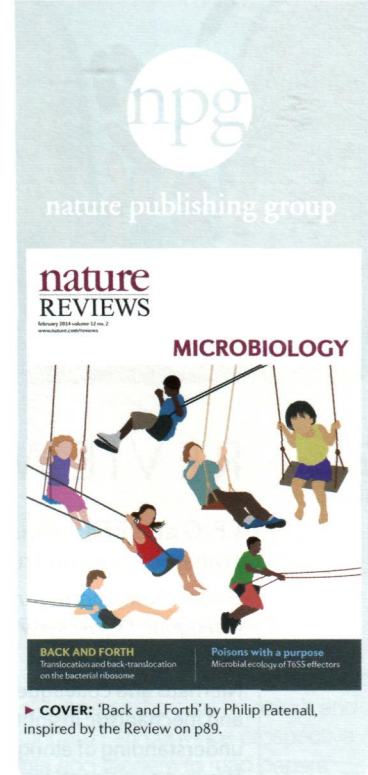
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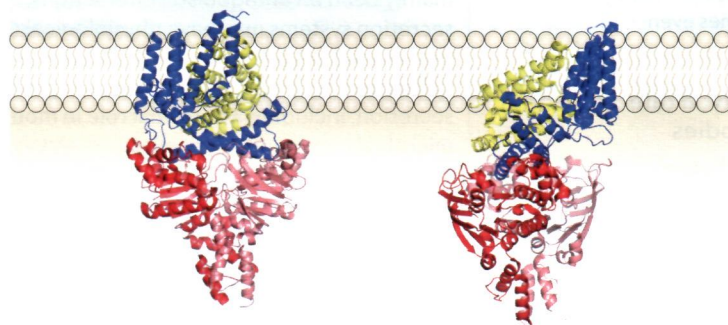
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Structural and mechanistic insights into prokaryotic energy-coupling factor transporters

Dirk J. Slotboom

Energy-coupling factor transporters mediate the uptake of essential micronutrients in prokaryotes. On the basis of recent structural studies, Dirk J. Slotboom discusses a testable model for the unusual mechanism of transport that is involved and considers the implications for our understanding of membrane transporters.



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