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No iron in Lyme

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Iron sequestration is one way that human cells limit bacterial growth. In the 2 June issue of *Science*, Posey and Gherardini show that the Lyme disease pathogen, *Borrelia burgdorferi*, has responded by eliminating most genes that encode iron-requiring proteins, and substituting manganese for iron in the few metalloproteins that are left (*Science* 2000, **288**:1651-1653). This is possible because the bacterium is an obligate parasite that lacks the enzymes for most biosynthetic pathways. As a result the bacterium grows happily with fewer than 10 atoms of iron present per cell.

References

1. Iron uptake mechanisms of pathogenic bacteria.
2. Science Magazine, [<http://www.sciencemag.org/>]