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## Crenarchaeon genome

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*Sulfolobus solfataricus* is a model organism for the study of the crenarchaeal branch of the Archaea. It is remarkable for its optimal growth conditions: 80°C and pH 2-4, metabolizing sulfur. In the July 3 *Proceedings of the National Academy of Sciences*, She *et al.* report completion of the genome sequence of *S. solfataricus* by a Canadian-European collaborative project (*Proc Natl Acad Sci USA* 2001, **98**:7835-7840). The genome is almost 3 megabases long on a single chromosome and encodes 2977 proteins, many of which are *Sulfolobus*- and/or archaea-specific. The largest family of genes are those involved in fatty acid biosynthesis. She *et al.* report extensive analysis of genes involved in metabolic pathways, protein transport, DNA replication and the cell cycle, DNA repair, transcription and translation. One interesting result is the use of ferredoxin (rather than NADH) as the primary metabolic electron carrier. Differences in the machineries of the cell cycle; DNA replication and translation underlie the distinction between crenarchaea and euryarchaea.

## References

1. The *Sulfolobus solfataricus* P2 genome project
2. *Proceedings of the National Academy of Sciences*, [<http://www.pnas.org>]
3. *Sulfolobus solfataricus* P2 complete genome sequencing project, [<http://www-archbac.u-psud.fr/projects/sulfolobus>]