

**P008** Non-random gene expression levels over the *Sulfolobus* chromosome

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Microarray-based global transcription analysis of the two crenarchaea *Sulfolobus acidocaldarius* and *Sulfolobus solfataricus* revealed a pattern of non-random gene expression levels over the chromosome. Regions of increased expression were distinguished by a high gene density, a high proportion of panarchaeal genes (conserved in most archaeal genomes and therefore likely to encode vital cellular functions), and few autonomous transposable elements.

Similar non-random patterns were observed both in exponential and stationary phase cultures, indicating that the increased expression was unrelated to general metabolic activity.

Furthermore, the fact that the pattern is recognizable in *S. solfataricus* despite the extensive genomic re-arrangements that have taken place in this species, as compared to *S. acidocaldarius*, indicates active selection for the trait.