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Sir2p is an NAD-dependent histone deacetylase that is involved in chromatin silencing. In the December 18 [Proceedings of the National Academy of Sciences](#), Antonio Bedalov and colleagues at the [Fred Hutchinson Cancer Research Center](#) describe the isolation of splitomicin, an inhibitor of Sir2p activity (*Proc Natl Acad Sci USA* 2001, **98**:15113-15118). They performed a genetic screen for compounds that inhibit silencing of telomeric or mating-type loci in yeast. This led them to a compound, 1,2-dihydro-3H-naphtho[2,1b]pyran-3-one, which they named splitomicin; it phenocopies *sir2* mutation by inhibiting histone deacetylase activity. Whole-genome microarray analysis confirmed that splitomicin affects genes silenced by Sir2p. Bedalov *et al.* used splitomicin to demonstrate that Sir2p histone deacetylase activity is required to maintain the silenced state in non-dividing cells.

References

1. The Sir proteins of *Saccharomyces cerevisiae*: mediators of transcriptional silencing and much more.
2. *Proceedings of the National Academy of Sciences*, [<http://www.pnas.org>]
3. Fred Hutchinson Cancer Research Center, [<http://www.fhcr.org>]