

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Chipping away at GATA

ArticleInfo		
ArticleID	:	4415
ArticleDOI	:	10.1186/gb-spotlight-20020305-01
ArticleCitationID	:	spotlight-20020305-01
ArticleSequenceNumber	:	81
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2002-3-5 OnlineDate : 2002-3-5
ArticleCopyright	:	BioMed Central Ltd2002
ArticleGrants	:	
ArticleContext	:	130593311

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GATA-1 is a hematopoietic lineage-specific transcription factor that is important for erythroid-specific gene expression patterns. In the March 5 [Proceedings of the National Academy of Sciences](#), Christine Horak and colleagues at [Yale University](#) describe an approach to mapping transcription factor binding sites in mammalian genomes (*Proc Natl Acad Sci USA* 2002, **99**:2924-2929). They looked at GATA-1 binding to the β -globin locus in human K562 erythroleukemia cells using chromatin immunoprecipitation (ChIP) combined with microarray analysis ([ChIP-chip](#)). They immunoprecipitated GATA-1 using three different antibodies and hybridized immunopurified genomic DNA to arrays containing fragments of the 75 kb β -globin locus. Two β -globin regions were consistently enriched, the HS2 core-element region known to bind GATA-1 and a region upstream of the gammaG gene. They then used PCR analysis to confirm and further define the GATA-binding region. These results demonstrate the feasibility of applying ChIP-chip methodology to comprehensive analysis of an entire mammalian locus.

References

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