

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

## A variant histone controls transcription

ArticleInfo		
ArticleID	:	3831
ArticleDOI	:	10.1186/gb-spotlight-20001115-02
ArticleCitationID	:	spotlight-20001115-02
ArticleSequenceNumber	:	268
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2000-11-15 OnlineDate : 2000-11-15
ArticleCopyright	:	BioMed Central Ltd2000
ArticleGrants	:	
ArticleContext	:	130591111

William Wells

Email: wells@biotext.com

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The histone originally dubbed H2A.F (for funny) but now called H2A.Z is variant but conserved: it differs significantly from the major histone H2A proteins but shows greater **conservation** between species than they do. H2A.Z is essential (at least in flies), its expression is tissue-specific, and it is localized to only some regions of fly polytene chromosomes, but its function has remained elusive. In the October 27 *Cell* Santisteban *et al.* find that inclusion of H2A.Z in chromatin regulates transcription (*Cell* 2000, **103**:411-422). They isolate the yeast H2A.Z as a multicopy suppressor of a histone H4 mutation. Depletion of histones usually makes gene transcription less dependent on the SNF/SWI chromatin remodeling complex, but deletion of yeast H2A.Z makes cells highly dependent on this complex. SNF/SWI and H2A.Z appear to act together, for example at the *PHO5* gene, where H2A.Z binds specifically in the promoter region. Thus H2A.Z may create higher order chromatin domains that are poised for activation.

## References

1. Conservation of intron position indicates separation of major and variant H2As is an early event in the evolution of eukaryotes.
2. *Cell*, [<http://www.cell.com/>]