

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

## HIV favors active genes

ArticleInfo		
ArticleID	:	4563
ArticleDOI	:	10.1186/gb-spotlight-20020828-01
ArticleCitationID	:	spotlight-20020828-01
ArticleSequenceNumber	:	229
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2002-8-28 OnlineDate : 2002-8-28
ArticleCopyright	:	BioMed Central Ltd2002
ArticleGrants	:	
ArticleContext	:	130593311

Tudor P Toma

Email: t.toma@ic.ac.uk

---

Replication of HIV requires integration of the proviral cDNA into human DNA within chromosomes, but the mechanism for selecting these sites has been poorly understood. In the August 23 *Cell*, Astrid Schröder and colleagues at [The Salk Institute](http://www.salk.edu/), La Jolla, California show that HIV-1 chooses active genes and local hotspots for integration in the human genome (*Cell* 2002, **110**:521-529).

Schröder *et al.* mapped 524 sites at which HIV cDNA had integrated into the human genome sequence and observed that these genes were strongly favored as integration acceptor sites. Active genes were the preferred integration targets, and in particular genes that became activated in cells after infection by HIV-1. In addition, they found regional hotspots for integration, including a 2.4 kb region containing 1% of sites.

"The findings may have implications for developing more effective gene therapies", says Frederic Bushman, senior author of the paper. "For example, data on preferred integration sites could guide the choice of gene-delivery vectors to minimize possible toxicity from integration and inform surveillance for possible malignancy due to integration at characteristic hotspots," he concludes.

## References

1. Schröder ARW, Shinn P, Chen H, Berry C, Ecker JR, Bushman F: HIV-1 integration in the human genome favors active genes and local hotspots. *Cell* 2002, 110:521-529., [<http://www.cell.com/>]
2. The Salk Institute, [<http://www.salk.edu/>]