

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

## Transgene switch

ArticleInfo		
ArticleID	:	4564
ArticleDOI	:	10.1186/gb-spotlight-20020828-02
ArticleCitationID	:	spotlight-20020828-02
ArticleSequenceNumber	:	230
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2002-8-28 OnlineDate : 2002-8-28
ArticleCopyright	:	BioMed Central Ltd2002
ArticleGrants	:	
ArticleContext	:	130593311

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The ability to regulate transgene expression levels is essential for many functional genomic and therapeutic applications. In an Advanced Online Publication in *Nature Biotechnology*, Weber *et al.* describe the development of E.REX, a novel gene regulation system that exploits components of the *Escherichia coli* erythromycin-resistance regulon (*Nature Biotechnology*, 19 August 2002, DOI:10.1038/nbt731). They designed both E<sub>OFF</sub> and E<sub>ON</sub> systems that are respectively repressed or induced using macrolide antibiotics (including erythromycin, clarithromycin and roxithromycin). Weber *et al.* demonstrated that the E.REX systems can function in mammalian cell lines in culture and in microencapsulated cells transplanted into mice. The binary E.REX system is functionally compatible with the tetracycline-responsive system allowing for the design of simultaneously regulated multigene applications.

## References

1. The impact of mammalian gene regulation concepts on functional genomic research, metabolic engineering, and advanced gene therapies.
2. *Nature Biotechnology*, [<http://biotech.nature.com>]
3. Transcriptional activation by tetracyclines in mammalian cells.