



Inducible Vectors FAQ

How does the Tet-On 3G Inducible System work?

OriGene's All-in-one Tet-On system is a new and improved version of the original Tet-On systems designed to significantly stimulate expression of the downstream gene of interest (GOI). It has a Tet-On 3G transactivator and a tightly regulated TRE promoter (PTIGHT) in one vector. The Tet-On 3G transactivator consists of a modified bacterial Tet repressor (TetR) fused to three minimal VP16 activation domains to create a transcriptional activator protein. Our Tet-On 3G transactivator contains mutations that significantly increase its sensitivity to Doxycycline (Dox), a synthetic analog to tetracycline. The increased sensitivity is particularly advantageous for in vivo studies in tissues where high Dox concentrations are difficult to attain (e.g., brain).

Can I use tetracycline in the Tet-On system?

Yes, but doxycycline is more stable in the culture medium (48 hours versus 24 hours for tetracycline) and appears to be more potent than tetracycline.

What are the applications of Tet-On vectors?

Our Tet-ON system can be used to investigate the role of your gene of interest with relation to progression of a disease, cell cycle, or tissue growth. Virtually any experiment requiring regulation of gene expression is easily accomplished with the use of our new and improved Tet-ON system.

Do you have Lentiviral Tet-On vectors?

Yes! Our Lentiviral Tet-On vectors are exclusively available through our [custom lentiviral packaging service](#), so you'll receive transduction-ready viral particles instead of the vectors themselves.

How do we test for leaking in the Tet-on vectors?

We have confirmed that there is no leaking issue within our Tet-On vectors by Western blotting analysis and GFP imaging, as we didn't observe any expression of target proteins without doxycycline.

Can you make inducible cell lines using Tet-On vectors?

Yes, our Tet-On vectors could be used for generation of stable cell lines. You can either make them yourself or go through our popular [stable cell line development service!](#)