

Accepted Manuscript

In trans promoter activation by enhancers in transient transfection

N.A. Smirnov, S.B. Akopov, D.A. Didych, L.G. Nikolaev

PII: S0378-1119(16)30964-7
DOI: doi: [10.1016/j.gene.2016.12.005](https://doi.org/10.1016/j.gene.2016.12.005)
Reference: GENE 41703

To appear in: *Gene*

Received date: 25 April 2016
Revised date: 15 November 2016
Accepted date: 8 December 2016



Please cite this article as: N.A. Smirnov, S.B. Akopov, D.A. Didych, L.G. Nikolaev , In trans promoter activation by enhancers in transient transfection. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. *Gene*(2016), doi: [10.1016/j.gene.2016.12.005](https://doi.org/10.1016/j.gene.2016.12.005)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

***In trans* promoter activation by enhancers in transient transfection**

Smirnov N.A., Akopov S.B., Didych D.A., Nikolaev L.G.*

*Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences,
117997, Moscow, Russia*

*Corresponding author. Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, 117997, Moscow, Russia. Tel. +7 495 330 7029; fax +7 495 330 6538.

E-mail lev@ibch.ru

Abstract

Earlier, it was reported that the strong cytomegalovirus enhancer can activate the cytomegalovirus promoter *in trans*, i.e. as a separate plasmid co-transfected with a promoter-reporter gene construct. Here we demonstrate that the ability of enhancers to activate promoters *in trans* in transient transfection experiments is a property of not only viral regulatory elements but also of various genomic enhancers and promoters. Enhancer-promoter activation *in trans* is promoter- and cell type-specific, and accompanied by physical interaction between promoter and enhancer as revealed by chromosome conformation capture assays. Thus, promoter activation in transient co-transfection of promoters and enhancers shares a number of important traits with long-distance promoter activation by enhancers in living cells and may therefore serve as a model of this fundamental cellular process.

Keywords: enhancer-promoter interaction; activation *in trans*; transient transfection

Download English Version:

<https://daneshyari.com/en/article/5589406>

Download Persian Version:

<https://daneshyari.com/article/5589406>

[Daneshyari.com](https://daneshyari.com)