方博士，

您好！

我是新语丝的忠实读者，也是方博士的粉丝！您的科普文章和书籍，我几乎期期不落，内容的科学性令人敬佩！

今天翻阅新语丝时，突然发现我的名字出现其中 – 北京大学周德敏 13 篇文章造假记录 – 着实吓我一跳！打开链接，发现其内容文不对题，先是长长的与我不相干、不知所云的内容，最后一笔而过我在核酸化学研究的一篇文章，而其它所谓 12 篇文章完全没有提及，另我困惑和不解，也无从得知和检验。

为了维护新语丝的严谨性和科学性，我想就文末一带而过的核酸化学研究文章做个说明，并附上相关的两篇文章及我给核酸化学研究编辑的信，由您和新语丝读者独立判断。

我在 2009 年在 RNA 杂志发过一篇文章，发现并报道了一些奇怪现象 （见下图和附件 RNA 文章） - 用慢病毒载体包装 shRNA 和 dsRNA 时，病毒载体的滴度差别很大，直接影响小 RNA 的递送效率，并带来相应基因敲低实验的不确定性。

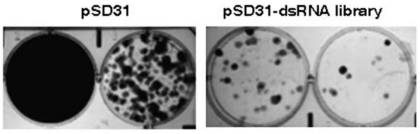


FIGURE 2. Extremely low efficiency of a lentiviral vector for delivery of a dsRNA library. The vector stocks were diluted 3000- and 1000-fold for tittering. pSD31 is the lentiviral backbone vector.

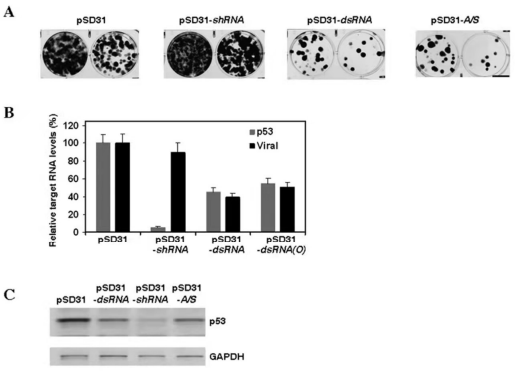


FIGURE 3. (*A*) Comparison of viral vector productions from 293FT cells transfected with pSD31, pSD31-*shRNA*, pSD31-*dsRNA*, or pSD31-*A/S*. The vector stocks were diluted 3000- and 1000-fold for tittering. (*B*) Taqman analyses of p53 and viral RNA knockdown in 293FT cells transfected with pSD31-*shRNA*, pSD31-*dsRNA*, or pSD31-*A/S*. The data were relative to the levels of p53 mRNA and viral RNA in pSD31-transfected 293FT cells. Data shown are from an experiment conducted in triplicate for each sample. (*C*) Western analyses of p53 knockdown in 293FT cells transfected with pSD31-*shRNA*, pSD31-*dsRNA*, or pSD31-*A/S*.

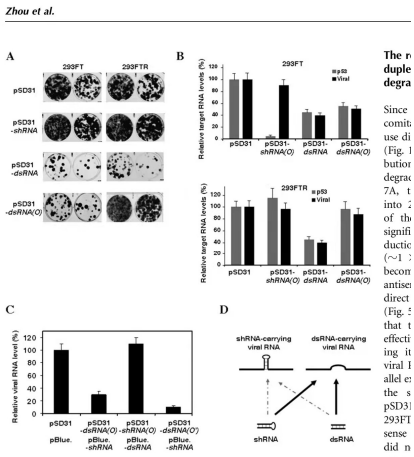


FIGURE 5. (*A*) Comparisons of viral vector productions from 293FT or 293FTR cells transfected with pSD31, pSD31-*shRNA*, pSD31-*dsRNA*, or pSD31-*dsRNA*(*O*). The vector stocks were diluted 3000- and 1000-fold for tittering. (*B*) Taqman analyses of p53 and viral RNA knockdown in above-transfected 293FT cells and 293FTR cells. The data were relative to

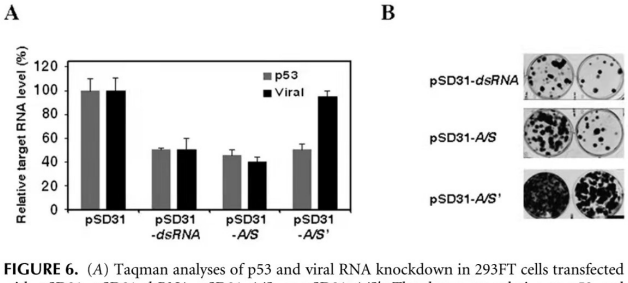


FIGURE 6. (*A*) Taqman analyses of p53 and viral RNA knockdown in 293FT cells transfected with pSD31, pSD31-*dsRNA*, pSD31-*A/S*, or pSD31-*A/S′*. The data were relative to p53 and viral RNA levels in pSD31-transfected 293FT cells. (*B*) Comparisons of viral vector productions from 293FT transfected with pSD31-*dsRNA*, pSD31-*A/S*, or pSD31-*A/S′*. The vector stocks were diluted 3000- and 1000-fold for tittering.

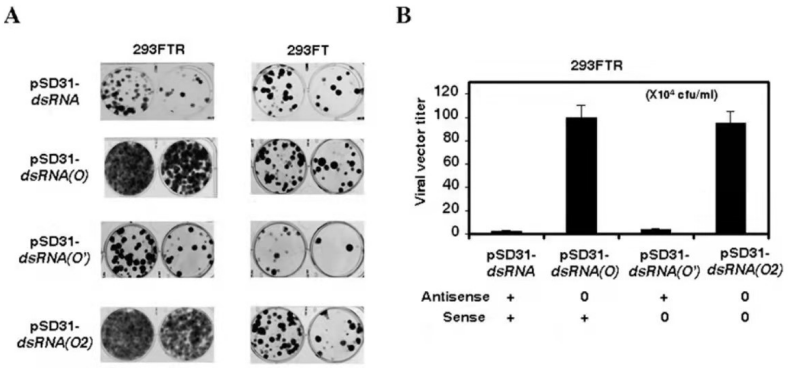
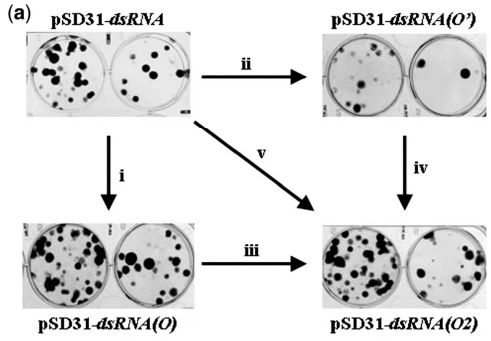


FIGURE 7. (*A*) Comparisons of viral vector productions from 293FT or 293FTR cells transfected with pSD31-*dsRNA*, pSD31-*dsRNA*(*O*), pSD31-*dsRNA*(*O*), or pSD31-*dsRNA*(*O2*). The vector stocks were diluted 3000- and 1000-fold for tittering. (*B*) Comparative analyses of

文章发表后（我即是该文的第一作者也是通讯作者），我一直对这一现象和背后的分子机制百思不得其解！

之后我安排研究生对这一现象进行深度挖掘，经过两年的努力，我们终于找到解释这一现象的实践和理论解释，将其命名为 strand antagonism，并发表在 2012 年的 NAR 上。为了总结分子机制，我们在该文最后画了一张图，将之前 RNA 文章百思不解的、散乱在至少五个图表中的病毒滴度差异化的数个小图，通过这一机制串联起来，方便 reviewers 和读者形象的理解 – 就像化学分子成药性研究中的构效关系图。



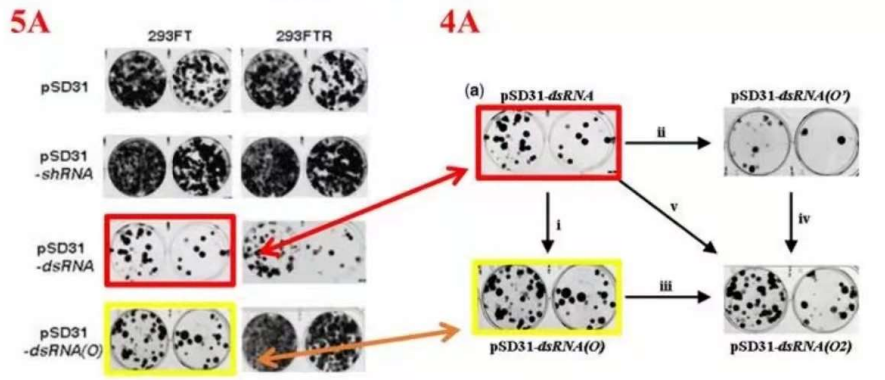
As reported previously (8,21,22), an inducible U6 promoter with a tetracycline operator (TetO or O) reduced transcription of shRNA by ~20%. Therefore, we replaced one of the two U6 promoters within the siRNA-expression cassette with the inducible promoter (Figure 2a), which reduced the expression of the antisense or sense RNA to the same extent (20%) as reported previously (8,22). Map mapping data indicated that the sequences of siRNA duplexes generated from various siRNA-expression cassettes were identical (Supplementary Figure 4). Such a reduction in the level of the antisense RNA [pSD31-*siRNA(O)*] increased the titer of lentivector almost 2-fold (Figure 4a and b), suggesting the potency of RNAi decreased slightly since the siRNA-carrying viral RNA itself is an inevitable target of RNAi (8,22). This result was consistent with the hypoth-

我在 NAR 文章中数次引用该 RNA 文章 – 仅在解释该分子机制图的一小段文字里，三次引用了该文（文献 8）；而且跟 NAR 编辑清楚表明，我就是有意识地重复利用这些分散的小图，并重新排列组合并通过箭头，构成一个有内在联系揭示 strand antagonism 的一个全新图。

我相信方博士以您深厚的分子生物学功底，以及其他熟悉 siRNA 病毒载体包装和递送系统的科学家一看即明白此图的意义！这绝不是简单的复制，有意识的重复是为解释其内在的规律。其实，我想指出 - 上图中未被标注的右边两个小图，也在 RNA 文章中出现，而且是多次出现！写信人可能有意识忽略掉这一点，目的是误导读者。

We have recently been contacted by an anonymous whistle-blower, regarding the duplication in NAR (Jin X, et al., Strand antagonism in RNAi: an explanation of differences in potency between intracellularly expressed siRNA and shRNA. Nucleic Acids Res. 2012 Feb;40(4):1797-806. https://doi.org/10.1093/nar/gkr927) of figures previously published in a RNA article: (A method for detecting and preventing negative RNA interference in preparation of lentiviral vectors for siRNA delivery *https://rnajournal.cshlp.org/content/ 15/4/732.full). Specifically, Figure 5A published in RNA has been re-used without proper acknowledgement in Figure 4A of the NAR article. The caption of Figure 4A implies that the results are new and not simply leftover data from the RNA paper. If that is the case, please can you explain why the images are identical?*

Image reused in Fig.5A and in Fig.5A of another paper (Jin, X., T. et al. Nucleic Acids Res, 2012. 40(4): p. 1797-806. DOI: 10.1093/nar/gkr927.). Shown with boxes of the same color.



再次感谢方博士！我也特别珍惜这个机会以正视听，维护新语丝网站的严谨性和科学性！

周德敏

2022 年 2 月 4 日

附涉及的两篇文章和我回复 NAR 编辑的信，见附件。