From the Editor

Editor's Picks 2010

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As the year comes to an end, the editorial staff has come together to reflect on the methods introduced this year and to select some of our favorite articles that appeared in *BioTechniques* over the past 12 months. Originally, I thought the idea would be simple, with each editor picking a couple of articles that he or she was particularly taken with. Indeed, generating a potential list was an easy task, but then narrowing it down to a select few articles proved to be much more difficult. In the end, through debate and numerous conversations, we were able to identify three articles that we all agreed highlight the best of *BioTechniques* in 2010.

The intent of our Benchmark articles is to present a new method, or a substantive modification to an existing method, in a short communication format. For me, these articles can be the height of elegance, style, and information delivery. In recent years, no article from the pages of *BioTechniques* has embodied this format better than "V-fusion: a convenient, nontoxic method for cell fusion," written by Yuri Lazebnik and his colleagues from Cold Spring Harbor Laboratory and included in our October 2010 issue. Lazebnik's method is exquisitely simple, yet undeniably powerful: the introduction of a viral fusogen of broad tropism into a cell enables the researcher to control cell fusion events by simply lowering the pH of the media. Cells cease to fuse when returned to physiological pH. Only one of the fusion partners needs to have the viral fusogen, which makes this technique very useful in systems where it is preferable not to modify one of the cells. Add to this the fact that the approach overcomes many limitations of previous cell fusion methods and is highly amenable to automation, and it is clear why this elegant new method made our list for 2010.

No less elegant but much more frank were the findings in "Interference with spectrophotometric analysis of nucleic acids and proteins by leaching of chemicals from plastic tubes," which we published this past spring. Checking spectral absorbance to determine DNA, RNA, or protein concentrations is a basic procedure and most often the primary (and potentially only) means to determine biomolecule amounts prior to downstream assays. But what if the readings are off? What if they result in concentrations miscalculated by up to 300%? Kevin Lewis and

his colleagues from Texas State University raised this very question in their April 2010 Report. Therein they noted that leached chemicals from plastic tubes could cause interference with spectrophotometric analysis of both nucleic acids and proteins, and tested a number of common commercial tubes for their effects on absorbance readings. Though they set forth a hefty claim, strong evidence and straightforward writing supported the team's findings and provided an extremely helpful wakeup call to scientists. The article also highlighted potential avenues to overcome the problem.

This year also saw the introduction of a series of reviews in the pages of *BioTechniques*. "Antibody validation," the March 2010 review by David Rimm and his colleagues at Yale University, turned out to be one of our most downloaded articles of the year, and generated a significant number of letters from readers. Rimm articulated the idea that antibody validation procedures were sorely lacking, a concept that had been widely acknowledged but not often detailed in the literature. Through a series of examples and a systematic evaluation of the validation procedures used by many commercial suppliers, this review demonstrated the need to tighten antibody validation standards in order to prevent wasting time and resources on ineffective antibodies. Those results, and Rimm's review of how antibodies are validated today, should serve as a guide to frame future discussions on how best to change validation practices within this critical area of tool development.

We trust that you as readers have your own personal favorite articles that appeared during 2010, and we are curious to know what they are. If you would like to share them with us, please post a response at our Molecular Biology Forums under "To the Editor" (<http://molecularbiology.forums.biotechniques.com>) or send an email directly to the editors (bioeditor@biotechniques.com). As we reflect back on the highlights of 2010, we look forward to the year ahead and to the new flight of influential papers that will emerge in 2011.

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