What's in a review?

Scientific referees accept a critical role in the peer review process. What do we expect of *Nature Chemical Biology* reviewers?

Peer review remains the primary mechanism for maintaining high standards and ensuring the completeness and accuracy of scientific studies. It also provides practical feedback to authors, which leads to better papers in the scientific literature. Over the years, the editorial team and *Nature Chemical Biology* authors have been fortunate to work with a diverse and conscientious group of referees. These scientists have consistently provided us with timely and thoughtful feedback on the novelty, technical merit and potential significance of manuscripts. Here, we discuss some specific aspects of how the peer review process works at *Nature Chemical Biology* and outline our expectations of our referees.

The manuscript assessment process at *Nature Chemical Biology* involves two steps (*Nat. Chem. Biol.* **4**, 715, 2008). First, the editorial team determines whether the submission falls within the scope of the journal and meets our editorial criteria for advance and potential interest. We also strive to maintain balance across the breadth of chemical biology. Manuscripts that satisfy these criteria are sent on to the second step of external peer review. We contact potential referees by e-mail to inquire whether they are available to review, based on the manuscript information (authors, title and abstract). We then provide referees with confidential access to the manuscript and its supplementary information, as well as guidelines for assessing the paper. After review, the editorial team discusses the manuscript again in light of the referee comments, makes a decision and sends it to the authors along with copies of the referee reports. At the same time, we alert the referees to our decision and also provide them with the anonymous referee comments.

As editors, we rely on high-quality scientific feedback from referees to inform our decisions on reviewed manuscripts. As a result, we are fully committed to the careful selection of referees who will provide fair, timely and complete assessments. *Nature Chemical Biology* papers generally report highly interdisciplinary findings, and so we enlist scientists (typically three or four for each paper) who collectively possess the expertise necessary to assess the technical data and conclusions of the study. In selecting qualified referees, the editors, who have extensive experience handling papers in their scientific portfolios, draw upon a large and growing international database of experts from across chemistry, biology and related disciplines. We also consider recommendations from authors, who are encouraged to provide a short list of potential referees. In selecting reviewers, the editors are sensitive to possible positive or negative biases that may affect the review process. In general, we do not consult with scientists who are closely associated with the authors—for example, as collaborators or former colleagues. We also honor author requests to exclude certain scientists owing to potential unfavorable conflicts, provided that such author exclusions are reasonable and selective.

In agreeing to provide comments, reviewers should be aware that, even though they are volunteering their efforts, they are making a number of important commitments to the authors and the journal. First, we ask that referees declare any potential conflicts (positive or negative) or concerns about expertise before agreeing to review a manuscript. Second, by accepting a review request, referees must treat the manuscript as confidential and not distribute or disclose its contents before it is published. Third, reviewers agree to provide their comments by our deadline—typically two weeks for new submissions. To ensure that the review process stays on track, we send reminders to referees as their deadline approaches and follow up on late reports. Fourth, scientists should be aware that by accepting a review request they need to make themselves available to look at revised versions of the manuscript. Revised manuscripts almost always include new experiments, and we rely on referees to assess whether these new data are technically sound and address the earlier concerns. The editorial team realizes that this requires more effort, so we do our best to ensure that the authors have made a serious effort to address the referee concerns before sending a paper back to review. We feel that these referee commitments are essential for effective peer review; as a result, we would prefer that scientists decline a review request and suggest other potential experts if they feel unable to fulfill these obligations.

At *Nature Chemical Biology*, we look for several things in referee comments, which are detailed more fully at our Authors & Referees site (http://www.nature.com/authors/editorial_policies/peer_review.html). The most useful reports outline the arguments in favor or against publication and provide the authors with specific suggestions of experiments and revisions necessary to strengthen the results and conclusions of the study. In their comments, referees should provide a summary of the major claims of the paper, a detailed assessment of its technical merit, an evaluation of how the paper fits into the current literature, and opinions on the study's potential significance for the discipline and general appeal to chemical biologists. In assessing experimental work, referees should consider whether the reported experimental details are scientifically and statistically sound, support the main conclusions and are described in sufficient detail to enable reproduction of the results. We also request that referees analyze the completeness and accuracy of the chemical compound and biological characterization data (*Nat. Chem. Biol.* **4**, 575, 2008) as well as the citations (*Nat. Chem. Biol.* **6**, 79, 2010). We allow referees the option to provide 'confidential comments' to the editors that will not be transmitted to the authors, but we request that referees choosing to do so ensure that the tone and substantive points of these editorial comments are mirrored in their reports to the author.

Though we rely heavily on the advice of referees, the editorial team makes the final decisions on which papers will be published in *Nature Chemical Biology*. We take this responsibility quite seriously, in the earnest belief that these decisions will be best for our readers and for the field. Providing a thoughtful scientific review requires effort and time. We are extremely grateful for our referees' diligence and ongoing commitment to supporting the high standards of the journal. As always, we look forward to continuing the dialog with our chemical biology authors, referees and readers.