The importance of accuracy when reporting on research is widely understood by members of the cancer research community. The scientific and medical literature is used as the basis for new experiments and research, and if published manuscripts contain mistakes, much time could be wasted performing fruitless follow-up experiments or trying to reconcile contradictory results. One of the key responsibilities that journal editors have is to coordinate the manuscript peer review process, to ensure that the scientific literature has been thoroughly scrutinized before publication. At Clinical Cancer Research, we take seriously our charge to hold submitted work to the highest standards; in addition to peer review, we also view it as our responsibility to set editorial standards when needed.

Many in the cancer research community have become increasingly concerned in recent years over a recurring and troublesome source of error: the contamination or misidentification of cancer cell lines. Cases of mistaken identity affecting widely used cancer cell lines have been reported, and it is feared that there may be many more undiscovered cases involving contamination or misidentification of cell lines that are currently in use. Uncertainty over the true identity of cell lines is a pressing problem, as each cancer has unique properties, and findings that relate to one type of cancer may not be pertinent to another type. Cell lines are used for a wide array of experiments, including testing new therapeutics, identifying biomarkers, and studying the molecular basis of tumorigenesis, so it is crucial that researchers know the type of cancer they are studying.

To address these concerns, Clinical Cancer Research, along with the other journals in the AACR family, is adopting a new policy for reporting data on cell lines. The purpose of the new guidelines is multifold: to encourage authors to more rigorously evaluate the identity of cell lines used in research, to inform readers of the extent to which a cell line has been characterized, and to acknowledge the importance of this issue on an editorial level. The new policy will go into effect on July 1, 2009, and will require that authors address the following points for any cell lines described in their research: (a) from where and when the cells were obtained; (b) whether the cell lines have been tested and authenticated; (c) the method by which the cells were tested; and (d) how and when the cells were last tested. If cells were obtained directly from a cell bank that performs cell-line characterizations and passaged in the user’s laboratory for fewer than 6 months, we do not believe that reauthentication is required. In other cases, in which cell lines have not recently, or ever, been authenticated, we strongly encourage testing.

We appreciate that testing cell lines places an additional burden on researchers, both in time and money spent. Furthermore, we realize that straightforward genetic testing of all cell lines may not be feasible, especially in cases in which there is no reference genetic profile to check against. However, genetic testing of cell lines is becoming less expensive, and a number of organizations will perform testing as a for-fee service. Furthermore, the policy that we have adopted stops short of requiring cell line authentication as a precondition for submission or acceptance of a manuscript. We view these new guidelines as a first step, and we hope that they will bring the problem of cell line contamination and misidentification into sharper focus and ultimately impact the accuracy of published research by reducing the number of experimental errors.

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Clinical Cancer Research

What's Your Line?
Jesse Potash and Kenneth C. Anderson


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