

Letter to the Editor

CAUTION ABOUT ASSAY OF ALKALINE PHOSPHATASE TO QUANTITATE CELL NUMBERS

Dear Editor:

After reading the article: "A rapid micro method for counting cells "in situ" using a fluorogenic alkaline phosphatase enzyme assay" by Huschtscha, L. I., Lucibello, F. C. and Bodmer, W. F. in the January issue of *In Vitro* (25:105-108, 1989), I feel that a note of caution is indicated regarding the use of the proposed technique for counting cultured cells.

From the text it is evident that the authors used cells in which the specific activity of alkaline phosphatase (ALP) did not appear to change during growth. However, this is not the case with all cultured cells. Indeed, it has been known for some time (1-3) that the specific activity of ALP in some cells increases during the growth cycle and that this change is not restricted to lines derived from human tumors (4-6). In addition, there are cell lines in which ALP is not detectable during log phase, but rapidly increases after confluency (7). These observations suggest that thorough knowledge of a particular cell line with respect to ALP expression is essential before using the method for the proposed purpose.

REFERENCES

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REPLY

It has indeed been known for some time that alkaline phosphatase activity may be induced in cells in culture under various conditions. This possibility was mentioned as a possible limiting factor in our paper. We make no claims that the assay could be used for all cell types and each particular cell must be checked if one is concerned that the relationship between measured ALP and number of cells is not valid. We have used the assay on many cell lines under a variety of conditions with considerable success and do not believe that induction of ALP is usually a serious limitation to its application.

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