by the well known philosopher Willie Sutton, if you are going to perform a test then 'why not go where the money is'?

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Response of human intestinal epithelial cells to gastrointestinal hormones

SIR,—I am writing to you with reference to the recent article by Simopoulos *et al* (*Gut* 1989; **30**: 600–4) which described the response of 'human intestinal epithelial cells' to a number of gastrointestinal hormones.

I was interested by the responses these authors described and by the cells used as I am aware of the difficulties of culturing fetal or adult gastrointestinal mucosa. I therefore checked the Flow catalogue and discovered that the cells were derived from human ileum and jejunum and were described as 'epithelial-like' rather than epithelial. In addition the Flow catalogue indicated that the source of the cells was the American Type Culture Collection and gave the ATCC CCL number. The ATCC catalogue describes the history of these cells (established in 1955) and gives a characterisation of these cells indicating that the cells have a number of HeLa markers and that the cell line was probably contaminated by HeLa cells (*ATCC Catalogue* 1988 6th ed 5–6). If these cells are in fact HeLa cells it means that the results published in this paper have no relevance to the responsiveness of human gastrointestinal cells to gastrointestinal hormones. Because of the paucity of publications in this area I believe that it is important to clarify this matter as I believe that this paper could be widely cited in future publications. It also illustrates the danger of using cells and cell lines which have not been shown to express properties of the tissue of origin, in this case either brush border enzymes or mucin.

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Reply

SIR,—It is of course very important to know the identity of cells used in tissue culture. Although we mainly used the term 'epithelial cells' in the paper, the first line of the summary and the first line of the

Methods makes it clear that the cells studied are 'epithelial-like'.

The Flow Laboratories catalogue labels the cells as Intestine 407, and refers to them as human embryonic jejunum and ileum. Their morphology is described 'Epith', and the statement is made that they may be contaminated by HeLa cells. The reference given in the catalogue is to Henle and Deinhardt (*J Immunol* 1957; **79**: 54), the original isolators of this cell line who called the cells epithelial-like. We therefore assumed that at least most of the cells are derived from the intestinal epithelium. Until the letter from Dr Whitehead we did not consult the ATCC catalogue, which makes the somewhat stronger statement that this line was probably contaminated with HeLa cells. As the composition of this cell line is not clear, Dr Whitehead is right in raising the question about the relevance of the results to the human intestinal epithelium. Even in our ignorance, however, about the possible extent of HeLa cell contamination we were cautious about the interpretation of the results, as can be seen in the penultimate paragraph of our paper. It may be that even more caution is necessary.

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Quality of life and inflammatory bowel diseases

SIR,—The health costs and the socioeconomic consequences caused by inflammatory bowel disease are a matter of controversy. In a recent paper based on the data of the German Social Security System (*Gut* 1989; **30**: 367–70), Sonnenberg refers to the period 1982–1986, when 279 000 workers per year were granted a disability pension because of all causes of diseases. In this group 264 patients per year with Crohn's disease and 153 patients per year with ulcerative colitis were recorded. Disability occurred more frequently in patients with Crohn's disease particularly in women and in subjects younger than 40 years; in ulcerative colitis a bimodal age distribution was found. For both the diseases a higher frequency was observed in white than in blue collar employees. On the basis of these data, the author concludes that inflammatory bowel diseases have severe socioeconomical implications bearing a greater risk of disability, particularly in young people, when compared with all the other diseases.

In our opinion such data cannot be representative of the actual frequency of disability caused by inflammatory bowel disease, as the total number of patients with ulcerative colitis and Crohn's disease is not given. Regarding the reported existence of a higher frequency of disability associated with Crohn's