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Letter to the Editor

Reply to Tomasz Drewa's Letter to the Editor re: Minja J. Pfeiffer, Jack A. Schalken. Stem Cell Characteristics in Prostate Cancer Cell Lines. *Eur Urol* 2010;57:246–55

Our paper investigated the presence of stemlike cells in several established prostate cancer cell lines [1]. Based on our results, we concluded that there are indications of cancer stem cells based on colony morphologies, self-renewal, and expression of several stem cell markers. CD133, however, previously shown to be a putative stem cell marker in primary prostate cancer tumors [2], failed to mark cancer stem cells in prostate cancer cell lines [1].

We thank Tomasz Drewa for his comments on our paper and agree to the pointed fact that cell lines differ among in vivo situations. Still, because patient material is often limited and because in vivo experiments are laborious, there is a need for cell lines as a basis for research.

Special care must be taken when interpreting data acquired from continuous cell lines. As reviewed by Masters, cell lines represent particular types of cancers, mostly fast-growing, high-stage, and poorly differentiated tumors that have required mutations needed for endless growth in vitro [3]. More problematic is the genetic instability that is generated during culture, through clonal selection and changes in culture conditions. Additionally, cross-contamination of cell lines and microbial contamination generate vast amounts of false data. These problems, however, can be overcome when handled well in a steady environment with continuous quality control [3].

With proper culturing techniques, continuous cell lines can be considered an acceptable alternative source of experimental material. Many cancer cell lines have been reported to contain stemlike cells [4], but the challenge remains to interpret and compare the results directly with stemlike cancer cells in vivo.

Conflicts of interest: The authors have nothing to disclose.

References

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