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## **THE 3RS IN TUMOR MICRO-ENVIRONEMENT STUDIES: EMPIRICAL BASES OF THE ETHICAL REGULATION**

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### **Abstract**

With the general goal to provide a rationale for the application of the 3Rs rule (Replace, Reduce, Refine), we aim to study the effect of the tumor microenvironment (TME) on the tumor response to a chemotherapeutic agent and use this research as a series of case studies in which to assess the application of the 3Rs rule from an epistemological point of view. In particular, by comparing reiterated experiments using 2D and 3D tumor cell cultures with murine models of cancer, we aim to assess to which extent mice can be **R**eplaced or their number **R**educed. In addition, we propose to further characterize a novel, **R**efined model of cancer that better mimics humans in respect to classical murine models.

**Keywords:** 3R, tumor, ethical studies

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