Cytotoxicity model using human cardiomyocytes derived from pluripotent cells (iPSCs) for cardiotoxicity safety assessment

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In contemporary drug development, preclinical and clinical evaluation, cardiac safety concerns arise from a variety of drug-tissue interactions, including direct myocyte toxicity. In this study, *in vitro* cytotoxic studies were conducted on GLP conditions in human cardiomyocytes derived from pluripotent cells (iPSCs). Before testing, cell population purity, above 90%, were confirmed by troponin 1 antibody biomarker. iPSCs cells were incubated with DMSO and Doxorubicin for 48 hours in a 96-well plates. Three different dyes – MTS, MTT and NR – were used to evaluate cell viability. The results showed that the iPSCs derived cardiomyocyte model was sensitive to predictive moderate and severe drug-induced cardiotoxicity. According to these results, the *in vitro* cytotoxicity model using iPSCs derived cardiomyocytes can be applied in the safety assessment of novel drug candidates as well as to identify compounds that may cause cardiotoxicity.

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