

CELL-BASED ASSAYS

Cell cycle

The cell cycle or cell-division cycle is a sequence of events that take place in a cell leading to its division and duplication of its DNA (DNA replication) to produce two daughter cells. The cell cycle consists of four distinct phases: G1 phase, S phase (synthesis), G2 phase (collectively known as interphase) and M phase (mitosis)^{1,2}.

Test system: A375 (human melanoma) - ATCC®.

Main Read-outs: Cell cycle.

Experimental number: Three wells per group in triplicate.

Reference Item: Cisplatin.

Validation Data

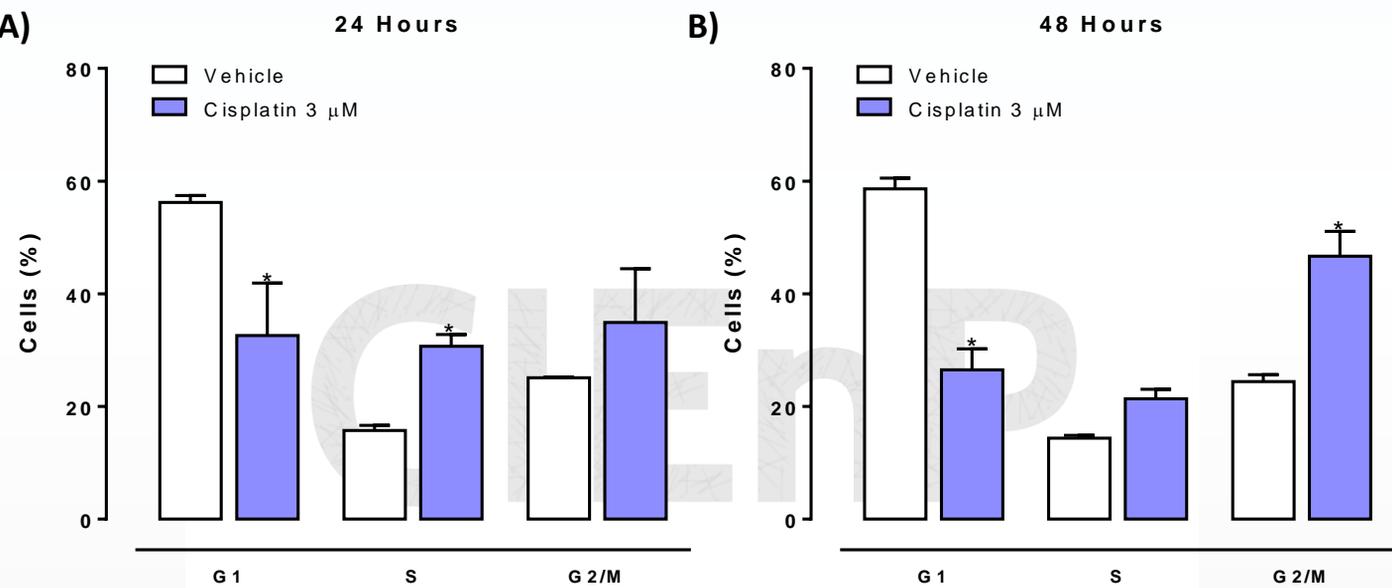


Figure: Cell cycle in human melanoma. The figure represents the cell cycle before (vehicle) and after cisplatin incubation through (A) 24 or (B) 48 hours. G1 phase, S phase (synthesis), G2 phase (collectively known as interphase) and M phase (mitosis). Each column represents the mean ± SEM of 3 wells per group in triplicate. Statistical analyses used was *t*-test. *P < 0.05 versus vehicle group.

To avoid bias and to allow reproducibility and reliability of all *in vitro* experiments we follow the “Guidance on Good Cell Culture Practice”³. All *in vitro* experiments were performed in triplicate wells for each condition and repeated at least three times.

References:

- Vermeulen K, Van Bockstaele DR, Berneman ZN. The cell cycle: a review of regulation, deregulation and therapeutic targets in cancer. *Cell Prolif.* 2003 Jun;36(3):131-49.
- Schafer KA. The cell cycle: a review. *Vet Pathol.* 1998 Nov;35(6):461-78.
- Coecke S; Balls M; Bowe G; Davis J; Gstraunthaler G; Hartung T; Hay R; Merten OW; Price A; Schechtman L; Stacey G; Stokes W. Guidance on good cell culture practice: a report of the second ECVAM task force on good cell culture practice. *Altern Lab Anim.* 2005, 33(3):261-87.