CELL LINE FOR SCREENING DEMETHYLATING AGENTS USING AN ENDOGENOUS EPIGENETICALLY SILENCEd REPORTER

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HINTERGRUND

Methylation, especially of promoter DNA, is considered to be a key mechanism in the development and progression of cancer. Consequently, high-throughput screening systems for agents that influence DNA methylation are a prerequisite for drug development in this area of cancer research.

Using the Zinc Finger Nuclease (ZFN) technique, EGFP and G418 resistance genes were stably integrated in the genome of the cell line H1299 under the control of an endogenous promoter. Since the promoter in this cell line is methylated (epigenetically silenced), the reporter genes are not expressed. After the addition of demethylating agents GFP or G418 can be used as a readout in a screening assay for epigenetic reactivation.

LÖSUNG

- Reporter cell line based on H1299 lung cancer cells
- Usage of endogenous promoter instead of artificial promoter sequences
- Readouts EGFP and G418 resistance
- Z-score 0.75

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ENTWICKLUNGSSTAND

Prototyp

CATEGORIES

//Research Tools //Medizin und Pharma
Relative viability of reporter cells treated with 5-aza-2'-deoxycytidine (DAC) compared to control cells after selection with G418

ANWENDUNGSBEREICHE

The cell line can be used for screening demethylating, epigenetic agents in a high-throughput format.

PUBLIKATIONEN & VERWEISE