MB49 Cell Line

Catalogue number: 153368
Sub-type: Primary
Images:

Contributor

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: MB49 Cell Line

Alternate name: MB49, MB-49, MB49 Mouse Bladder Carcinoma Cell Line

Class:
Conjugate:
Description: MB49 is a urothelial carcinoma cell line derived from an adult C57BL/ICRF-a(t) mouse bladder epithelial cells transformed by chemical carcinogen 7,12-dimethylbenz[a]anthracene (DMBA) in culture. It is one of the most-established murine tumour cell line to study human bladder cancer, widely used by scientists for more than 45 years after its original publication by Cancer Research UK researcher - Leonard Franks. MB49 cell line can be used both as an in vitro and in vivo tumour model, thanks to its clinically relevant metastatic potential. MB49 cells also shares pivotal tumour characteristics with human bladder cancer. Key features of MB49 cell line: (1) Rapidly generates tumours when injected subcutaneously or orthotopically into syngeneic mice (Summerhayes et al. 1979; Kasman et al. 2013). (2) Recapitulates key features of sex differences in bladder tumour growth (White-Gilbertson S, et al. 2016). (3) Loss of the Y-chromosome and expression of male-specific antigens, a frequent feature observed in human bladder cancer (Fabris et al. 2012). (4) Dose-dependent enhanced proliferation to dihydrotestosterone and lack of proliferation to human chorionic gonadotrophin (White-Gilbertson S, et al. 2016). (5) Model to explore immunogene therapy, such as adenoviral vectors (Loskog et al. 2005). Further accelerate bladder cancer research, with our luminescent derivative of MB49, MB49-luc Cell Line (Cat. #: 161579). The bioluminescence can be detected by in vivo imaging and offers a readout for tumour take, growth and reduction.
Purpose:
Parental cell:
Organism: Mouse
Tissue: Bladder
Model: Tumourigenic line
Gender:

Male
Isotype:
Reactivity:
Selectivity:
Host:
Immunogen:
Immunogen UNIPROT ID:
Sequence:
Growth properties: The cells do not form a 100% confluent monolayer but at 70% confluence tend to detach in small clumps that float in the media. About 10-20% of the cells will be attached with a spindle-like epithelial morphology, the remainder will appear rounded
Production details: Derived from adult C57BL/Icrf-a' mouse bladder epithelial cells via single 24 h treatment with 7,12-dimethylbenz[a]anthracene (DMBA) on the second day of primary culture
Formulation:
Recommended controls:
Bacterial resistance:
Selectable markers:
Additional notes:

Target details

Target:

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application: In vitro and in vivo model of bladder cancer; Metastatic urothelial carcinoma research
Application notes: Points of Interest The loss of Y chromosome and lack of expression of male specific antigens is a frequent early event within bladder cancer, and thus is an appropriate and effective model system. MB49 cell line displays little to no MHC class I and II molecules but MHC class II antigens are produced when stimulated with interferon. Implanted long term MB49 cells were subcutaneously injected into mice, with the primary tumours resected, mechanically disrupted and trypsin digested to obtain single cells, most of which were adherent but a small population of spheroidal 3D structures in culture. These are likely stem like, basal and highly metastatic, which is ideal for researching metastatic urothelial carcinoma. Immortalisation process: 7,12-dimethylbenz[a]anthracene on day 2 of culture.

Handling

Format: Frozen
Concentration:
Passage number:
Growth medium: DMEM Complete Medium or in DMEM-High Glucose with 10% FBS and 1X Penicillin/Streptomycin (optional)
Temperature: 37° C
Atmosphere: 5%CO2
Volume:
Storage medium:
Storage buffer:
Storage conditions: Liquid Nitrogen
Shipping conditions: Dry ice

Related tools

Related tools: MB49-luc Cell Line

References

References: Original hybridoma first published in: Clark et al. 2005. J Cell Sci. 118(Pt 2):291-300. PMID: 15615773.