

HGS3 cell line

Catalogue number: 160539

Sub-type:

Images:

Contributor

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: HGS3 cell line

Alternate name: ovarian cancer, tumor microenvironment, matrisome, serous, mouse model

Class:

Conjugate:

Description: Human tumours comprise a complex mixture of malignant cells, immune, and other stromal cells regulated by a dynamic network of soluble mediators and adhesion molecules. All of these components interact in an abnormal extracellular matrix (ECM), often referred to as the tumor matrisome (Socovich and Naba, 2018). Not only is this tumour microenvironment (TME) critical for the growth and spread of human cancers but also the non-malignant components are important targets for immunological and other biological therapies (Binnewies et al., 2018, Foster et al., 2018, Mantovani et al., 2017). However, it is not clear whether TMEs of murine cancer models sufficiently replicate their human counterparts. Differences between the human and mouse TMEs may compromise pre-clinical studies of novel immune and other biological therapies and their successful translation to clinical trials. Many murine cancer models may not have appropriate oncogenic mutations and may be grown in immunocompromised animals or in unsuitable anatomical sites; others grow too rapidly for a TME to develop fully or too slowly for pre-clinical studies to be feasible. It has been demonstrated that many of the biomechanical, cellular, and molecular features of human HGSOC are replicated in these murine tumours with significant correlations in mRNA expression profiles, innate and adaptive immune responses, tissue modulus, and matrisome components (Maniati et al 2020). Further highlighting the utility of these models as avatars of human disease, the mouse models exhibit significant differences and distinct vulnerabilities in their TMEs, reflecting the heterogeneity of human HGSOC biopsies. Using this model platform, proof-of-concept studies were conducted demonstrating the potential of this repertoire of models for pre-clinical studies and found that the transcriptional profile of chemotherapy-responsive murine tumours translates to patients, suggesting that these mouse models could help identify sub-groups of patients who would most benefit from a specific treatment (Maniati et al 2020).

Purpose:

Parental cell:

Organism: Mouse

Tissue: Ovary

Model: Cancer Model

Gender:

Isotype:

Reactivity:

Selectivity:

Host:

Immunogen:

Immunogen UNIPROT ID:

Sequence:

Growth properties:

Production details: Murine cell lines: HGS lines were derived from individual tumors collected in cold PBS, minced with a scalpel, and incubated with 1 mg/ml collagenase type I (Fisher, 17018-029). After being split once onto collagen-coated plates, cells were transferred into Primaria flasks (Corning) and then propagated as polyclonal lines on normal cell-culture plastic (Corning). Complete medium was DMEM:F12 1:1 with GlutaMax (GIBCO) with the addition of 4% FBS (Hyclone), 1x Pen/Strep (Invitrogen), 1x insulin/transferrin/selenium (Invitrogen, 51300), 100 ng/ml hydrocortisone (Sigma, H0135), 20 ng/ml murine Epidermal Growth Factor (EGF, Sigma, E4127), 1x antibiotic-antimycotic (GIBCO). Cells were trypsinized with 0.05% trypsin-EDTA (GIBCO). 60577 and 30200 cell lines were derived and cultured as described (Szabova et al., 2014). Orthotopic tumor growth: Cell lines were trypsinized, washed in medium, and resuspended in PBS to 10x10⁶ cells in 300 µl injected i.p. into 8-week old FVB mice (60577, 30200) or 6-7-week old C57BL/6J mice (HGS1-4) from Charles River, UK. Mice were treated with 2 mg/kg anti-IL-6 or isotype control (BioXCell) twice weekly i.p., starting three weeks (60577 model), ten weeks (30200 model) or seven weeks (HGS2 model) after cell injection, until the end of the experiment. Carboplatin (20 mg/kg) was administered i.p. once a week for three weeks starting at week 3 (60577 model), or week 8 (HGS2 model).

Formulation:

Recommended controls:

Bacterial resistance:

Selectable markers:

Additional notes:

Target details

Target: Ovarian Cancer cell line

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application: Identification patient subgroups that are likely to respond to specific therapies

Application notes:

Handling

Format: Frozen

Concentration:

Passage number:

Growth medium:

Temperature:

Atmosphere:

Volume:

Storage medium:

Storage buffer:

Storage conditions:

Shipping conditions: Dry ice

Related tools

Related tools:

References

References: Maniati et al. 2020. Cell Rep. 30(2):525-540.e7. PMID: 31940494.