

# UB-OC2 Cell Line

**Catalogue number:** 153623

**Sub-type:** Continuous

**Images:**

## Contributor

**Inventor:** Matthew C Holley

**Institute:** University of Bristol; University of Sheffield

**Images:**

## Tool details

**\*FOR RESEARCH USE ONLY**

**Name:** UB-OC2 Cell Line

**Alternate name:** Organ of Corti cell line number 2; UB/OC-2

**Class:**

**Conjugate:**

**Description:** A conditionally immortal cell line derived from the mouse cochlea. The immortalizing gene was activated in organotypic cultures of auditory sensory epithelia at E13, the thirteenth day of embryonic development, before the hair cells had started to differentiate after their last mitoses. The cell line expresses characteristic hair cell markers including the transcription factor Brn3.1, the  $\alpha 9$  subunit of the acetylcholine receptor, the stereociliary protein fimbrin and the myosins VI and VIIA. UB/OC-2 cells have higher expression of Brn3.1, the  $\alpha 9$ AChR and myosin VIIa compared with UB/OC-1 at 33°C suggests that the former may have been immortalized at a later stage of differentiation and therefore represent committed hair cell precursors. This means that UB/OC-2 can be used specifically to study hair cell development at an early stage. At this stage they do not display the hair cell phenotype (cuticular plate, stereocilia, polarised organisation, etc.), but do express proteins specific to the hair cell transduction apparatus

**Purpose:**

**Parental cell:** Primary cultures of the developing organs of Corti of E13 embryonic Immortomouse??

**Organism:** Mouse

**Tissue:** Developing organs of Corti

**Model:** Conditionally immortalised

**Gender:**

**Isotype:**

**Reactivity:**

**Selectivity:**

**Host:**

**Immunogen:**

**Immunogen UNIPROT ID:**

**Sequence:**

**Growth properties:**

**Production details:** Cells derived from C57/Bl6 mice carrying a stable insertion of the conditional immortalising gene H-2Kb-tsA58, which describes a temperature-sensitive variant of the SV40 immortalising gene that encodes the large tumour antigen under the control of the Î²-interferon-sensitive MHC Class 1 promoter. The transgenic mouse is called the Immortomouse (Jat et al 1991 Proc. Nat. Acad. Sci. USA 88, 5096-5100)

**Formulation:**

**Recommended controls:**

**Bacterial resistance:**

**Selectable markers:**

**Additional notes:**

## Target details

**Target:**

**Target alternate names:**

**Target background:**

**Molecular weight:**

**Ic50:**

## Applications

**Application:** Inner ear development studies; Gene expression and functional studies of inner ear-specific genes; In vitro screening for gene activation and promoter analysis; Ototoxicity studies (prescribed drugs and agents that ameliorate their affects); Functional studies of inherited deafness mutations; Functional analysis of ion channels, receptors, and signalling pathways in vitro

**Application notes:**

## Handling

**Format:** Frozen

**Concentration:**

**Passage number:** Passage 22

**Growth medium:** MEM with 10% FCS, 50Units/ml Î³-IFN, L-glutamine

**Temperature:** 33° C

**Atmosphere:** 5% CO2

**Volume:** 1 ml

**Storage medium:** Pure Foetal Calf serum with 10% DMSO

**Storage buffer:**

**Storage conditions:** Store in LN2 after a short period at -80° C

**Shipping conditions:** Dry ice

## Related tools

**Related tools:**

## References

**References:** Fritzsche et. al. Int J Mol Sci. 2022 May 21, 23(10):5780. PMID: 35628594; Clough et al. 2004. Biochem Biophys Res Commun. 324(1):372-81. PMID: 15465029; Rivolta et al. 2002. Genome Res. 12(7):1091-9. PMID: 12097346; Jagger et al. 2000. J Physiol. 527 Pt 1:49-54. PMID: 11011664; Jagger et al. 1999. Pflugers Arch. 438(1):8-14. PMID: 10370081; Rivolta et al. 1998. Proc Biol Sci. 265(1406):1595-603. PMID: 9753783

CancerTools.org