

## **MATERIAL SALES OPPORTUNITY: 27008C**

### **DATA SHEET INFORMATION FOR**

#### **Cell Line Names:**

UB-UE1 (Utricular Epithelium cell line number 1)

#### **Host species:**

Mouse (C57 Black6)

#### **Phenotype and Useful Applications:**

Epithelial cell line suitable for studies on:

Inner ear development

Gene expression and function of inner ear-specific genes

In vitro screening for gene activation and promoter analysis

Ototoxicity (prescribed drugs and agents that ameliorate their affects)

Function of inherited deafness mutations

Functional analysis of ion channels, receptors and signalling pathways in vitro

#### **Genotype:**

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  $\gamma$ -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)

#### **Characterisation & Specificity of Strain:**

Derived from vestibular epithelium (utricle macula) using thermolysin treatment and dissection to ensure origin from sensory epithelial supporting cells at post-natal day P2. At this stage the supporting cells are normally post-mitotic but retain the ability to differentiate as sensory hair cells and or supporting cells. UB/UE-1 was characterised by timed expression under differentiating conditions in vitro of a combination of gene and protein markers for epithelial cells and for inner ear sensory cells. These include Cytokeratin, Vimentin, Myosin VIIa, Myosin VI, Brn3c,  $\alpha$ 9AChR and a combination of functional ion channels (see references). Screened with Affymetrix mouse Micro-arrays. The cells differentiate neonatal stage hair cell and supporting cell phenotypes under differentiating conditions in vitro.

#### **Relevant publications involving the strain:**

Lawlor P, Kros C, Marcotti W, Rivolta MN & Holley MC (1999). Differentiation of mammalian vestibular hair cells from immortal, post-natal supporting cells. *J. Neurosci.* **19**: 9445-9458.

Hackett L, Davies D, Helyer R, Kennedy H, Kros C, Lawlor P, Rivolta MN, Holley M (2002). E-cadherin and the differentiation of mammalian vestibular hair cells. *Exp Cell Res.* **287**: 19-30.

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