

## 6TA1 cell line

**Contributor:**

Guanping Tai (Davies lab)

**Organism:**

Mus musculus (H-2K<sup>b</sup>-tsA58 'Immortomouse': mouse described by Jat *et al.* Proc Natl Acad Sci U S A 88:5096-5100 - PMID:1711218)

**Tissue:**

Metanephros, from 11.5dpc embryos

**Growth Properties:**

Adherent

**Original production method:**

Complete instructions can be found in Tai G, Hohenstein P, Davies J, *Meth Mol Biol* (in press). E11.5 kidneys were isolated from embryos of H-2K<sup>b</sup> tsA58 transgenic mice ('immortomice') by manual dissection in DMEM (Sigma D5546). They were incubated 5-10 min in 2U/ml dispase at room temperature (about 14°C: this is Scotland!), and the ureteric bud was gently pulled away from the MM, like a hand from a glove. Tissues were rinsed in DMEM, then 8-10 buds or mesenchymes were crudely chopped up and placed in 1x Trypsin-EDTA for 10 mins at 37°C, then transferred to 'Immortal medium' (1:1 DMEM-F12 (Sigma D8437) with 10% heat-inactivated fetal bovine serum (Invitrogen), IFN- $\gamma$  100U/ml (ProSpecBio cyt-358), 1% ITS supplement (Sigma I2521 – ie a final 1 in 100 dilution of the manufacturer's stock: this supplement contains 1 mg/ml insulin, 0.55 mg/ml human transferrin, and 0.5  $\mu$ g/ml sodium selenite), glutamine, penicillin and streptomycin (these last three coming from a single stock solution; Invitrogen 10378016) and 1x antioxidants (Sigma A1345). After 10 mins they were triturated through a yellow tip until they were a single-celled suspension. They were plated on Matrigel-coated dishes in Immortal medium with 10 $\mu$ M Y-27632 (Sigma Y0503) and incubated at 33°C for 48h. The medium was replaced with plain Immortal medium and the cells were incubated for a further 72h at 33°C, given new medium and incubated for 72h more at the same temperature. Cloning rings were used to isolate clones, which here harvested and used to seed new wells in the usual way, incubation still being done at 33°C.

**Propagation:**

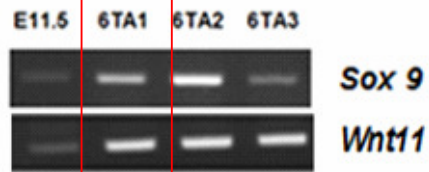
Maintain at 33°C in DMEM-F12 medium (Sigma D8437) with 10% FCS (Invitrogen 10108165), 20 U/ml gamma interferon and 1x ITS (insulin, transferrin, selenium) supplement (Sigma I3146), 1x antioxidant supplement, (Sigma A1345), 1x penicillin-streptomycin-glutamine mix (Invitrogen 10378016). Passage using Trypsin-EDTA, diluting cells about 1:3. Change medium every 3 days. For cell freezing, freeze slowly in 90% growth medium, 10% DMSO.

**Characterization:**

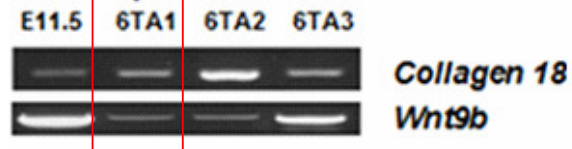
By RT-PCR, this cell line expresses the ureteric tip markers Sox9 and Wnt11 and the stalk markers Collagen 18 and Wnt9b (we do not know if they are co-expressed in the same cells).

PTO

### Tip-specific markers



### Stalk-specific markers



**Reference:** (detailed method):

Tai G, Davies JA (2011) Making immortalized cell lines from embryonic mouse kidney, to use as an alternative to in vivo experiments in renal research. *Meth Mol Biol* (in press at time of submission).

**Funding:**

NC3Rs grant G0700480