

ASCC CELL LINE LICENSING PROPOSAL

CELL LINE DESCRIPTION:

MEL-4 Human Embryonic Stem Cell (HESC) line

SUMMARY:

MEL-4 is a HESC line that was derived upon a human feeder cell line in serum free cell culture medium. This cell line exhibits typical HESC morphology and has been demonstrated to express a number of cell surface and intracellular markers of undifferentiated HESCs. Additionally, independent histology analysis confirms teratoma formation.

MEL-4 is available at a low passage number (p12).

LICENSING TERMS:

Type: Non-Exclusive License

SOURCE & DERIVATION CONDITIONS:

MEL-4 is a HESC line that was derived from donated frozen IVF embryos no longer required for infertility treatment and approved for stem cell derivation by the Australian National Health and Medical Research Council Licensing Committee (License #309709). In contrast to the conditions used to derive MEL-1 and MEL-2 HESCs (mouse embryo-derived feeder cell line in FBS supplemented media), MEL-4 was derived on human foetal skin fibroblasts (Detroit 551) feeders using DMEM/F12, 20% KOSR and 10 ng/mL bFGF media formulation.

KARYOTYPE:

46, XX (p4 and p25)

MORPHOLOGY:

Well defined colonies with compact cells displaying high nuclear to cytoplasmic ratio and prominent nucleoli.

CHARACTERISATION:

MEL-4 has been demonstrated to exhibit a number of cell surface and intracellular antigens associated with undifferentiated HESCs (Table 1).

Table 1: HESC Markers Expressed by Mel-4

Marker	Result
Oct-4	+
GCTM2	+
TG30	+
CD24	+
Podocalyxin	+
TRA-1-60	+
TRA-1-81	+

In addition to marker expression, the *in vivo* differentiation potential of MEL-4 HESC line was also analysed by teratoma formation following injection into NOD-SCID mice. Histology analysis confirmed the formation of teratomas. However it was noted that only immature cell types were observed.

MICROBIOLOGY:

Negative for mycoplasma, HTLV, Hepatitis B & C, HIV-I and *Treponema palladium*.

PASSAGE NUMBER AVAILABLE:

Passage 12 and greater.

STORAGE CONDITIONS & STABILITY:

MEL-4 is supplied in open pulled straws (x2) containing 9-10 colony sections in vapour phase liquid Nitrogen. Human fibroblast feeder cells are not provided but are available from the ATCC (Detroit 551, Catalogue Number CCI-110).

PUBLICATIONS:

Not published

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