



VIRUS-FREE HUMAN PLACENTAL CELL LINES TO STUDY GENETIC FUNCTIONS

SUMMARY

The National Institute of Child Health and Human Development's Section on Cellular Differentiation is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize immortalized virus-free human placental cell lines. The National Institute of Child Health and Human Development's Section on Cellular Differentiation is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize immortalized virus-free human placental cell lines.

REFERENCE NUMBER

E-052-2009

PRODUCT TYPE

- Research Materials

KEYWORDS

- immortalized
- human placenta
- cell lines
- human trophoblasts
- placental functions

COLLABORATION OPPORTUNITY

This invention is available for licensing.

DESCRIPTION OF TECHNOLOGY

This technology describes immortalized virus-free human placental cell lines. To develop these cell lines, human placental cells were immortalized with adenovirus-origin-minus (ori-)-simian virus-40 (SV40) recombinant viruses containing either wild-type or temperature-sensitive (ts) A mutants of SV40. Cells transformed with the SV40 tsA chimera (HP-A1 and HP-A2), but not the SV40 wild-type chimera (HP-W1), were conditional for transformation. All three cell lines expressed trophoblast-specific genes, including placental specific genes and the alpha- and beta-subunits of hCG.

These immortalized virus-free human placental cell lines expressing major proteins of human trophoblasts provide efficient *in vitro* models to study placental functions, control of tissue-specific gene expression, and other studies.

POTENTIAL COMMERCIAL APPLICATIONS

- Immortalized virus-free human placental cell lines expressing major proteins of human trophoblasts provide efficient *in vitro* models to study placental functions.



COMPETITIVE ADVANTAGES

- Models study placental functions, control of tissue-specific gene expression, and other studies.

INVENTOR(S)

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DEVELOPMENT STAGE

- Prototype

PUBLICATIONS

- KJ Lei, Y Gluzman, CJ Pan, JY Chou. Immortalization of virus-free human placental cells that express tissue-specific functions. *Mol Endocrinol.* 1992 May; 6(5):703-712. [[PubMed abs](#)]

PATENT STATUS

- **U.S. Filed:** Research Tool -- patent protection is not being pursued for this technology

THERAPEUTIC AREA

- Reproductive