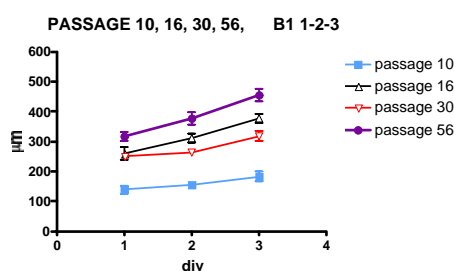
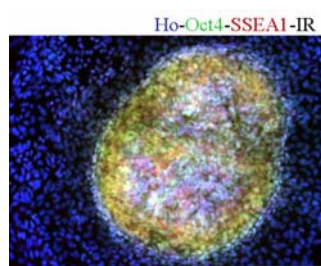


ASC-N-ErB1 (*rat embryonic stem cell line*)

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ASC-Lab, University of Bologna, has established a rat embryonic stem cell line and primary cultures of neonatal skin-derived and adult neural rat stem cells. Stem cells are unspecialized cells that can differentiate into numerous types of specialized cells with specific functions. A wide range of diseases and disorders might benefit from stem-cell research improvement, among these Parkinson, Alzheimer's disease, diabetes, cancer, spinal cord injury, and multiple sclerosis etc. Stem cells are also a valuable source of material for drug discovery, high-content screening assays, and toxicology studies.

Growth curve of ASC-N-ErB1



1. Description of the product

ASC-N-ErB1 is a rat embryonic stem cell line with a stable near-diploid karyotype. Despite the abnormal karyotype, ASC-N-ErB1 cell colonies grown on Mitomycin C-treated mouse embryonic fibroblast exhibit uniform morphology, a predictable growth rate, and are easy to maintain in culture. ASC-N-ErB1 cells are pluripotent. The ASC-N-ErB1 cells are positive for pluripotency markers as Oct-4, SSEA-1 and placental alkaline phosphatase.

2. Innovative aspects of the product

One of the most commonly used animal species for disease models is rat. The establishment of a stable, totipotent and deeply characterized rat embryonic stem cell line (RESCs) has proved to be difficult. Up to now no commercially available RESCs lines are available. We have established a RESCs line stable up to 80 passage: ASC-N-ErB1.

3. Main advantages of the offer

The established rat embryonic stem cell line is a reliable, stable and easy handling in vitro tool. The ASC-N-ErB1 is suitable for a wide range of in vitro applications: toxicity/efficacy tests, active molecules and pollutants screening, evaluation of biocompatible materials and devices.

4. Technology keywords

Rat embryonic stem cells, Oct-4, in vitro tool, drug discovery

5. Current stage of development

The ASC-N-ErB1 has been characterized, expanded in culture and several aliquots of cells at different passages are stored in nitrogen liquid. In vitro pilot study of active molecules have been performed, and evaluation parameters fixed.

6. Intellectual property rights

Patentability and protection by intellectual property privatives are pending.

Technical and scientific publications

Fernandez M., Paradisi M., Giardino L., Calzà L. To Know Neural Stem Properties From Diseased Brain: A critical step for Brain Repair. Prog. In Stem Cells Research. Ed. NOVA Publishers, 4:77-97. 2006

Chen B.L. , Pironi S. , Fernandez M. , Giuliani A., Vaccari f., Scagliarini A., Giardino L., Calzà L. Skin-derived stem cells from different mammalian species: a tool for developmental, pharmacological and cancer studies. Stem Cells and Cancer, Eds. D.W. Parsons, pp. 1-22, 2007

Pironi S., Fernández M., Chen B. L., Farnedi A., Pession A., Calzà L. Isolation of rat embryonic stem cells as tool for stem cell research and drug discovery . (*In preparation*)

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