

## Data Sheet

PAGE 1/3

**BCRJ Code:** 0405

**Cell Line:** MEF-1

**Species:** Mus musculus

**Vulgar Name:** Mouse

**Tissue:** Embryo

**Cell Type:** Sv40 Transformed

**Morphology:** Fibroblast

**Growth Properties:** Adherent

**Age/Ethnicity:** Embryo /

**Derivation:** The cell line MEF-1 was established by transfection of mouse embryo fibroblasts ((C57 BL/6 x 129) F1) with a SV40 coding plasmid. MEF-1 express the wild-type for low density lipoprotein receptor related protein (LRP). Together with the cell lines PEA10 and PEA13, which express heterozygous and homozygous forms of LPR, an experimental system is available for the analysis of cellular uptake of functionally diverse ligands and the effect of LRP - deficiency. This is of importance since LRP - deficient mouse embryos die early during gestation.

**Biosafety:** 2

**Culture Medium:** DMEM High glucose with 2 mM Glutamine and 10% of fetal Bovine Serum (FBS).

**Subculturing:** Split sub-confluent cultures (70-80%) using 0.05% trypsin or trypsin/EDTA; 5% CO<sub>2</sub>; 37°C. Note: For more information on enzymatic dissociation and subculturing of cell lines consult Chapter 10 in Culture of Animal Cells, a manual of Basic Technique by R. Ian Freshney, 3rd edition, published by Alan R. Liss, N.Y., 1994.

## Data Sheet

PAGE 2/3

### Subculturing Medium Renewal:

2 to 3 times a week

### Subculturing Subcultivation Ratio:

1:6 to 1:10

### Culture Conditions:

Atmosphere: air, 95%; carbon dioxide (CO<sub>2</sub>), 5% Temperature: 37°C

### Cryopreservation:

95% FBS + 5% DMSO (Dimethyl sulfoxide)

**SAFETY PRECAUTION:** It is strongly recommended to always wear protective gloves, clothing, and a full-face mask when handling frozen vials. Some vials may leak when submerged in liquid nitrogen, allowing nitrogen to slowly enter the vial. Upon thawing, the conversion of liquid nitrogen back to its gas phase may cause the vial to explode or eject its cap with significant force, creating flying debris.

1. Thaw the vial by gently agitating it in a 37°C water bath. To minimize contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 minutes).
2. Remove the vial from the water bath as soon as its contents are thawed and decontaminate it by dipping in or spraying with 70% ethanol. From this point, all operations must be performed under strict aseptic conditions.
3. For cells sensitive to DMSO, it is recommended to remove the cryoprotective agent immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL of complete culture medium and centrifuge at approximately 125 × g for 5 to 7 minutes.
4. Discard the supernatant and resuspend the cell pellet in the recommended complete medium (see specific batch information for the appropriate dilution ratio).
5. Incubate the culture under appropriate atmospheric and temperature conditions (see "Culture Conditions" for this cell line).

### Thawing Frozen Cells:

**NOTE:** It is important to avoid excessive alkalinity of the medium during cell recovery. To minimize this risk, it is recommended to place the culture vessel containing the growth medium in the incubator for at least 15 minutes before adding the vial contents. This allows the medium to stabilize at its normal pH (7.0 to 7.6).

## Data Sheet

PAGE 3/3

### References:

Cell 1995; 82:331, J Cell Sci 1994; 107:719, J. Biol Chem 1994; 269:21117. Kounnas MZ, et al. LDL receptor-related protein, a multifunctional ApoE receptor, binds secreted beta-amyloid precursor protein and mediates its degradation. Cell 82: 331-340, 1995. PubMed: 7543026 Willnow TE, Herz J. Genetic deficiency in low density lipoprotein receptor-related protein confers cellular resistance to Pseudomonas exotoxin A. Evidence that this protein is required for uptake and degradation of multiple ligands. J. Cell Sci. 107: 719-726, 1994. PubMed: 8006085 Orth K, et al. Low density lipoprotein receptor-related protein is necessary for the internalization of both tissue-type plasminogen activator-inhibitor complexes and free tissue-type plasminogen activator. J. Biol. Chem. 269: 21117-21122, 1994. PubMed: 8063731

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