

## MA-Balb Cells | 400270

### General information

#### Description

Ma-Balb is a mouse cell line established in vitro from a solid, spontaneously occurring mammary carcinoma in a female BALB/c mouse. This cell line originated from a solid, bean-sized tumor obtained from the mammary region of a young BALB/c mouse. Ma-Balb cells are significant in cancer research, particularly for studying mammary tumors, due to their derivation from a tumor-prone strain known for developing such cancers.

The Ma-Balb cell line, with its fibroblast-like morphology, provides a robust model for investigating the cellular and molecular mechanisms driving mammary carcinoma. Researchers utilize these cells to explore the genetic and environmental factors that contribute to tumorigenesis, enabling a deeper understanding of cancer biology. Furthermore, Ma-Balb cells are instrumental in testing new anticancer treatments, offering insights into drug efficacy and toxicity. Their relevance extends to immunological studies, where they help elucidate the interactions between cancer cells and the immune system, thereby contributing to the advancement of immunotherapies.

**Organism** Mouse

**Tissue** Breast

**Disease** Malignant neoplasms of the mouse mammary gland

**Synonyms** Ma-Balb

### Characteristics

**Breed/Subspecies** BALB/c

**Age** 1 year

**Gender** Female

**Morphology** Epithelial-like

**Cell type** Fibroblast

**Growth properties** Adherent

### Regulatory Data

**Citation** MA-Balb (Cytion catalog number 400270)

**MA-Balb Cells | 400270****Biosafety level** 1**NCBI\_TaxID** 10090**CellosaurusAccession** CVCL\_5795**Biomolecular Data****Tumorigenic** Yes, in Balb/c mice**Viruses** MAP-test negative.**Handling****Culture Medium** DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO<sub>3</sub>, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)**Supplements** Supplement the medium with 10% FBS**Dissociation Reagent** Accutase**Subculturing** Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.**Fluid renewal** 2 to 3 times per week**Post-Thaw Recovery** 24 to 48 hours**Freeze medium** As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

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### Thawing and Culturing Cells

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below  $-150^{\circ}\text{C}$  to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a  $37^{\circ}\text{C}$  water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at  $300 \times g$  for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

### Incubation Atmosphere

$37^{\circ}\text{C}$ , 5%  $\text{CO}_2$ , humidified atmosphere.

### Shipping Conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately  $-78^{\circ}\text{C}$  throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

### Storage Conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about  $-150$  to  $-196^{\circ}\text{C}$ . Storage at  $-80^{\circ}\text{C}$  is acceptable only as a short interim step before transfer to liquid nitrogen.

## Quality Control & Molecular Analysis

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**Sterility**

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.

To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.