Product sheet

CDNR4 Cells | 400391

General information

Description	The CDNR4 cell line comprises a specialized subset originating from the COMMA-D cell line, known for modeling mouse mammary carcinoma. This clonal subpopulation has undergone extensive characterization, revealing a range of unique properties and functionalities. One of the most striking features of CDNR4 cells is their resemblance to mammary stem cells, which positions them as a significant resource for exploring aspects of stem cell biology, carcinogenesis, and cellular heterogeneity within populations. These cells were developed through the transfection of a transposon bearing kanamycin and neomycin resistance genes (Tn5 gene), which led to the emergence of various intriguing traits and capabilities, including their potential to differentiate into both preneoplastic and neoplastic phenotypes. Originating from the COMMA-D line, which was initially studied for its cellular heterogeneity using a variety of techniques such as phase contrast microscopy, immunocytochemical staining, DNA content analysis, and evaluations of oncogenic potential, CDNR4 stands out as a distinct clone. Through specific transfection and selection methods, clonal subpopulations like CDNR4 were isolated, each maintaining a degree of the heterogeneity seen in the original COMMA-D parental cells. This retention of heterogeneity underscores the complex nature of these cell populations and enhances the value of CDNR4 cells in research focused on cellular differentiation and cancer progression.
Organism	Mouse
Tissue	Breast
Disease	Adenocarcinoma

Characteristics

Age	1 year
Gender	Female
Growth properties	Adherent

Regulatory Data

Citation	CDNR4 (Cytion catalog number 400391)
Biosafety level	1
NCBI_TaxID	10090

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CellosaurusAccession	CVCL_5719

Biomolecular Data

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, 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.
Seeding density	2 x 10^4 cells/cm^2 is recommended
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 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°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°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 x 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°C, 5% CO_2, humidified atmosphere.
Flask Coating	None
Shipping Conditions	Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °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 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Quality Control & Molecular Analysis

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.