Product sheet

EL4.IL-2 Cells | 400425

General information

Description	The EL4.IL-2 cells, a distinct subline of EL4, which has been derived from the thymus of a mouse that was affected by lymphoma, expresses the unique characteristics of T lymphoblasts. This makes them an exceptional model for exploring the intricacies of T-cell lymphomas and various aspects of the immune system. A key attribute of the EL4.IL-2 cell line is its exceptional capability to produce interleukin-2 (IL-2), an essential cytokine that plays a pivotal role in immune responses. When these cells are exposed to phorbol-12-myristate-13-acetate (PMA), they exhibit a remarkable proficiency in IL-2 production. The levels can reach up to 2500 units/ml after a 24-hour cultivation period. This potent ability to generate high amounts of IL-2 makes EL4.IL-2 cells an ideal candidate for investigating the various roles and functionalities of IL-2 in different biological contexts. The origin of EL4.IL-2 cells from the thymus, a crucial organ for T-cell maturation, confers upon them properties that closely resemble those of lymphoblasts. This aspect, combined with their lymphoma background, provides a unique opportunity to examine the behaviors and characteristics of lymphoblast-like cells in a controlled experimental environment. Moreover, EL4.IL-2 cells are characterized by a moderate doubling time, ranging approximately between 15 to 20 hours. The predictable and consistent growth pattern of these cells is an essential factor that enhances the efficiency and reliability of various research studies.
Organism	Mouse
Tissue	Thymus
Disease	Lymphoma

Characteristics

Breed/Subspecies	C57BL/6N
Growth properties	Suspension

Regulatory Data

Citation	EL4.IL-2 (Cytion catalog number 400425)
Biosafety level	1
NCBI_TaxID	10090

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CellosaurusAccession	CVCL_5681

Biomolecular Data

Viruses	Ectromelia virus (mousepox) negative.
Products	Interleukin-2 (IL-2)

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% horse serum
Subculturing	Maintain cultures by periodically adding or replacing the medium. Initiate cultures with a density of 5 x 10^5 cells/ml and keep the cell concentration within the range of 3 x 10^5 to 1 x 10^6 cells/ml for optimal growth.
Seeding density	0.1 x 10^6 cells/ml
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, allow the cells to recover from the freezing process 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.

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.
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.