Product sheet

KC Cells | 300604

General information

Description	KC (Kc167) is a Drosophila melanogaster embryonic cell line derived from a dorsal closure stage female embryo. The line was originally established and has been widely used in Drosophila cell biology, genetic screens, and functional genomics. Kc167 cells have been immortalized with SV40 and grow semi-adherently, forming a mixed population of attached and loosely floating cells. They are among the best-characterized Drosophila cell lines and are fully amenable to RNAi-mediated gene silencing, making them a cornerstone model for genome-wide RNAi screens in invertebrate biology. KC cells are applicable in Drosophila cell biology, genome-wide RNAi and CRISPR screens, signal transduction pathway studies (Wnt/Wingless, Hedgehog, Notch, JAK/STAT, Toll/NF-κB), innate immunity research, and comparative studies of evolutionarily conserved pathways. The fully sequenced and annotated Drosophila genome, combined with extensive public databases of RNAi reagents (e.g., DRSC/TRiP), makes KC cells particularly powerful for unbiased functional genomic discovery. BSL-2 classification applies due to the SV40 immortalization.
Organism	Drosophila melanogaster (Fruit fly)
Tissue	Embryo
Disease	Normal
Metastatic site	Embryo (dorsal closure stage)
Applications	Drosophila cell biology; genome-wide RNAi screens; CRISPR screens; signal transduction (Wnt/Wingless, Hedgehog, Notch, JAK/STAT, Toll/NF-κB); innate immunity; invertebrate functional genomics
Synonyms	KC, K C

Characteristics

Age	Dorsal closure stage
Gender	Female
Morphology	Semi-adherent epithelial-like
Cell type	Embryonic cells
Growth properties	semi-adherent

KC Cells | 300604

Regulatory Data

Citation	KC (Cytion catalog number 300604)
Biosafety level	2
NCBI_TaxID	7227
CellosaurusAccession	CVCL_Z833
GMO Status	GMO-S2: This Drosophila cell line contains a stably integrated SV40 immortalization cassette. BSL-2 containment is required. This classification applies only within Germany and may differ elsewhere.

Biomolecular Data

Virus susceptibility	SV40 immortalized

Handling

Culture Medium	Schneider's Drosophila medium + 2mM Glutamine + 10% Foetal Bovine Serum (FBS).
Supplements	Supplement the medium with 2 mM Glutamine and 10% FBS
Dissociation Reagent	Not required (semi-adherent; resuspend gently)
Doubling time	approx. 24 to 48 hours
Subculturing	Gently pipette the culture to resuspend semi-adherent cells. Transfer an appropriate volume to a new flask and add fresh pre-warmed Schneider's medium. Dilute to a density of 5×10^5 to 1×10^6 cells/ml. Incubate at 25°C in ambient air without CO_2.
Split ratio	1 to 3
Seeding density	5×10^5 to 1×10^6 cells/ml
Fluid renewal	Every 2 to 3 days

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	25°C, ambient air (no CO_2 required).
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