Product sheet

OVCAR-8-Luc Cells | 305697

General information

Description	OVCAR-8-Luc cells are a bioluminescent derivative of the human ovarian adenocarcinoma cell line OVCAR-8, which was originally established from an adult patient with advanced-stage disease. These cells have been genetically engineered to stably express luciferase, an enzyme that catalyzes light emission in the presence of its substrate, enabling highly sensitive, non-invasive monitoring of cellular activity. The parental OVCAR-8 line is characterized by aggressive growth, genomic instability, and features representative of high-grade serous ovarian cancer, making it a widely used model for studying ovarian tumor biology. The incorporation of luciferase allows OVCAR-8-Luc cells to be used in longitudinal in vivo imaging applications, particularly in xenograft and orthotopic tumor models, where tumor burden and metastatic dissemination can be quantitatively tracked over time using bioluminescence imaging. These cells retain key molecular and phenotypic traits of the parental line, including alterations in pathways relevant to ovarian cancer progression such as p53 dysfunction and dysregulated cell cycle control. Consequently, OVCAR-8-Luc cells are well suited for evaluating therapeutic efficacy, tumor growth kinetics, and metastatic behavior, as well as for studying tumor microenvironment interactions in preclinical research.
Organism	Human
Tissue	Ovary
Disease	Adenocarcinoma
Synonyms	OVCAR 8, NIH:OVCAR-8, OVCAR8, Ovcar8, OVCAR.8, OVCA8, OVCAR-8/EGFP_LC3

Characteristics

Age	64 years
Gender	Female
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Adherent

Regulatory Data

Citation	OVCAR-8-Luc (Cytion catalog number 305697)

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Biosafety level	1
NCBI_TaxID	9606
GMO Status	GMO-S1: This human ovarian carcinoma cell line (OVCAR-8-Luc) contains a lentiviral firefly-Luc reporter construct, enabling bioluminescent tracking. The insert is stably integrated. This classification applies only within Germany and may differ elsewhere.

Biomolecular Data

Protein expression	Luc

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Seeding density	1-3 x 10^4 cells/mL
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium. 7. Follow the procedure described under Post-Thaw Recovery
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