

Breast Cancer-Associated Fibroblasts (CAFs)

Product Information

Product Name	Breast Cancer-Associated Fibroblasts (CAFs)
Catalog Number	NEOCA79
Cell Type	Primary Human Cancer-Associated Fibroblasts
Tissue Origin	Human Breast Tumor Tissue
Species	Human
Passage Number	Passage 1
Cell Number	1,000,000 cells/vial
Storage Condition	Liquid Nitrogen Vapor Phase
Growth Properties	Adherent
Biosafety Level	BSL-2
Intended Use	Research Use Only (RUO). Not for human therapeutic or diagnostic applications.

Product Description

Breast Cancer-Associated Fibroblasts (CAFs) are isolated from human breast carcinoma tissue and expanded under optimized culture conditions. CAFs represent a major stromal component of the tumor microenvironment and play critical roles in tumor progression, extracellular matrix remodeling, angiogenesis, metastasis, immune modulation, and therapeutic resistance.

These cells are suitable for cancer biology, tumor microenvironment studies, drug discovery, immuno-oncology, extracellular matrix interaction studies, and co-culture applications.

Morphology

- Typical spindle-shaped fibroblast morphology
- Adherent monolayer growth pattern
- High proliferative capacity in early passages

Characterization / Expression Markers

Positive Markers

Breast CAFs are characterized by expression of multiple fibroblasts and activated stromal markers, including:

- α -Smooth Muscle Actin (α -SMA / ACTA2)
- Fibroblast Activation Protein (FAP)
- Vimentin
- Fibroblast-Specific Protein 1 (FSP1 / S100A4)
- PDGFR- β (CD140b)
- PDGFR- α (CD140a)
- TE-7
- Fibronectin
- Collagen I
- Collagen III
- Tenascin-C
- Periostin
- CXCL12 (SDF-1)
- IL-6
- TGF- β
- VEGF
- Caveolin-1 (variable)
- CD90 (Thy-1)
- CD44

Negative Markers

Cells are negative for:

- CD31 (Endothelial marker)
- CD45 (Hematopoietic marker)
- EpCAM (Epithelial marker)
- Cytokeratin 8/18
- Cytokeratin 19

Recommended Culture Conditions



Parameter	Recommendation
Recommended Medium	Fibroblast Growth Medium
Culture Surface	Tissue Culture-Treated Flask
Incubation Conditions	37°C, 5% CO ₂ , Humidified Atmosphere
Medium Renewal	Every 2–3 Days
Subculture Ratio	1:3 to 1:5

Cryopreservation

Cells are cryopreserved in a validated freezing medium containing DMSO and serum supplements.

Thawing Procedure

1. Rapidly thaw the vial in a 37°C water bath.
 2. Transfer cells aseptically into pre-warmed complete medium.
 3. Centrifuge to remove cryoprotectant if desired.
 4. Seed cells into the appropriate culture vessel.
 5. Replace medium after 24 hours.
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Quality Control Testing

Each lot is tested for:

- Cell morphology verification
 - Viability assessment
 - Sterility testing
 - Mycoplasma testing
 - Marker expression validation
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Applications

- Tumor microenvironment research
- Cancer-stroma interaction studies



- Drug screening and resistance studies
 - Immuno-oncology research
 - Angiogenesis studies
 - Extracellular matrix remodeling analysis
 - Co-culture assays
 - Migration and invasion assays
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Storage & Stability

- Store in liquid nitrogen vapor phase immediately upon receipt.
 - Avoid repeated freeze-thaw cycles.
 - Use early passage cells for optimal performance.
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Safety Statement

This product is intended for laboratory research use only and is not intended for human or animal therapeutic applications.

Manufacturer

[NeoBioPharma](https://www.neobiopharma.com)