NCI-H1048

305595

GENERAL INFORMATION

Description

NCI-H1048 □一种源自成年患者肺部肿瘤的人小细胞肺癌（SCLC）细胞系，被广泛用作神经内分泌肺癌的模型。 小细胞肺癌以生长迅速、早期转移和与神经内分泌分化密切相关为特征，而 NCI-H1048 反映了其中许多特征。这些细胞通常以悬浮或松散粘附的簇状形式生长，并表现出与 SCLC 一致的形态，包括细胞体积小、呈圆形且核质比高。

在分子水平上，NCI-H1048 表现出小细胞肺癌的特征性表现，包括关键抑癌基因通路（如 TP53 和 RB1）的改变，这些基因在该疾病中通常处于失活状态。 该细胞系表达神经内分泌标志物，包括与激素分泌和神经元分化相关的蛋白质，使其成为研究神经内分泌信号传导和肿瘤生物学的重要模型。与其他小细胞肺癌模型类似，它也可能表现出参与增殖和生存的致癌驱动基因的扩增或过表达，从而促使其呈现侵袭性表型。

NCI-H1048 用于针对小细胞肺癌发病机制、药物敏感性及耐药机制的研究。在以初始治疗反应良好但随后迅速复发为特征的疾病背景下，该细胞系对于评估化疗药物和靶向治疗具有特别重要的价值。 该细胞系还被用于肿瘤细胞可塑性、神经内分泌分化以及高通量药物筛选的研究。然而，与许多小细胞肺癌模型一样，不同数据集间的详细突变特征可能存在差异，因此对于需要精确基因组信息的实验，建议进行额外的分子特征分析。

Tissue	肺部
Disease	小细胞癌
Metastatic site	胸腔积液

Synonyms

- H1048
- H-1048
- NCIH1048

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	上皮样
MSI status	不稳定（MSI 高）

IDENTIFIERS

Citation

NCI-H1048（Cytion 目录号 305595）

NCBI TaxID	9606
Cellosaurus	CVCL_1453

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

HANDLING AND CULTURE

Culture medium

DMEM:Ham's F12□1:1□□w: 3.1 g/L □□□□w: 2.5 mM L-□□□□□w: 15 mM HEPES□w: 0.5 mM □□□□□w: 1.2 g/L NaHCO3□Cytion □□□□ 820400a□□

Incubation atmosphere	37°C, 5%CO2, □□□□□

Supplements

□□□□□□□ 5% FBS□0.005 mg/mL □□□□0.01 mg/mL □□□□□30nM □□□□□10 nM □□□□□□10 nM beta-estradiol

Dissociation reagent	Accutase

Subculturing

□□□□□□□□□□□□□□□□□□□□□ PBS □□□T25 □□□ 3-5 □□ PBS□T75 □□□ 5-10 □□□□□□ TrypLE Express □□□□□□□T25 □□□ 1-2 □ □□T75 □□□ 2.5 □□□□□□□□□□□□ 8-10 □□□□□□□□□□□□□ 10 □□□□□□□□□□□□□□□□□□□□ 300xg □□ 3 □□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□□□□□□□□

Thawing and culturing

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit. 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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Medium
HITES medium supplemented with 5% fetal bovine serum: The base medium for this cell line is DMEM:F12 Medium
(Catalog No. 820400a). To make the complete growth medium, add the following components to the base medium:
0.005 mg/ml Insulin
0.01 mg/ml Transferrin
30 nM Sodium selenite (final conc.)
10 nM Hydrocortisone (final conc.)
10 nM beta-estradiol (final conc.)
extra 2 mM L-glutamine (for final conc. of 4.5 mM)
5% fetal bovine serum (final conc.)
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

QUALITY CONTROL AND CRYOPRESERVATION

Sterility

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Freeze medium	□□□□□□□□□□□□□□□ FBS□+10% DMSO □ CM-1□Cytion □□□□□□ 800100□□□□□□□□□ □□□□□□□□□□□□□□□□□CM-1□Cytion □□□□□□ 800100□□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□

Storage conditions

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Shipping conditions

□□ -78 °C □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

DONOR

Donor age	53 年
Ethnicity	非洲裔美国人

LEGAL AND SAFETY

Safety precautions

计划将低温样品储存在液氮中以便将来解冻时，必须遵守严格的安全措施。在将冷冻样本移入或移出液氮罐时，必须穿戴适当的防护手套和防护服，并使用面罩或安全护目镜。这样做 □为了降低在移出时因冷冻样品爆炸而造成伤害的风险，因为爆炸可能导致锋利的碎片飞溅。

Warranty

在Cytion，我们保证产品的质量和活力。
我们保证，从我们的工厂发货后 60 天内，我们的细胞在开始培养时都 □存活的。
我们保证所有材料均符合分析证书和 /或产品说明书中描述的规格。
有关详细信息，请参阅我们的 <a href="" /Who-we-are/Warranty/"" hreflang=""x-default"">保修声明。

Material Transfer Agreement required	Yes

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

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