

Adriamycin-Resistant Ovarian Tumor Cell Line, NCI/ADR-RES

Summary

The National Cancer Institute (NCI) seeks non-exclusive licensees for NCI/ADR-RES, an adenocarcinoma-derived Adriamycin-resistant ovarian tumor cell line.

NIH Reference Number

E-115-2021

Product Type

- Research Tools

Keywords

- Adriamycin-Resistant, NCI/ADR-RES, MCF-7/ADR-RES, Cell Line, Ovarian Cancer, Adenocarcinoma, OVCAR-8, Multi-Drug Resistance, MDR1, P-glycoprotein, Cowan

Collaboration Opportunity

This invention is available for licensing.

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Description of Technology

Cancer cells may acquire drug resistance after prolonged chemotherapy. In many cases, cancer cells develop resistance to several drugs with distinct structures and modes of action. This multi-drug resistance phenomenon increases the complexity of cancer treatment.

Researchers at the National Cancer Institute (NCI) have derived an Adriamycin-resistant cell line, NCI/ADR-RES, from human ovarian cancer cells. The parental cell line is OVCAR-8, obtained from a high-grade ovarian serous adenocarcinoma. NCI/ADR-RES is resistant to Adriamycin and found to express high levels of the Multi-Drug Resistance 1 (MDR1) protein – also known as P-glycoprotein. The cell line was extensively characterized and proven useful in identifying compounds subject to multi-drug resistance. NCI/ADR-RES was deposited into the Division of Cancer Treatment and Diagnosis (DCTD) Developmental Therapeutics Program (DTP) Tumor Repository and added to the NCI-60 Human Tumor Cell Lines Screen, along with parental OVCAR-8. Molecular characterization

data are publicly available on the DTP website.

NCI is seeking parties to non-exclusively license the ADR-RES cell line.

Potential Commercial Applications

- Research tool to study the multi-drug resistance phenomenon in cancer
- Research tool to study Adriamycin resistance in ovarian cancer
- Research tool to study the overexpression of MDR1 (P-glycoprotein) in cancer

Competitive Advantages

- Extensively characterized and documented human ovarian adenocarcinoma cell line
- Part of the NCI anti-cancer drug screen human cell line panel (NCI-60 Human Tumor Cell Lines Screen)
- Molecular characterization data are publicly available

Inventor(s)

Kenneth H Cowan MD PhD (NCI)

Development Stage

- Pre-clinical (in vivo)

Publications

Vert A, et al. Transcriptional profiling of NCI/ADR-RES cells unveils a complex network of signaling pathways and molecular mechanisms of drug resistance. [[PMID 29379303](#)]

Scudiero DA, et al. Cell line designation change: multidrug-resistant cell line in the NCI anti-cancer screen. [[PMID 9625176](#)]

Batist G, et al. Overexpression of a novel anionic glutathione transferase in multidrug-resistant human breast cancer cells. [[PMID 3782078](#)]

Patent Status

- **Research Material:** NIH will not pursue patent prosecution for this technology

Therapeutic Area

- Cancer/Neoplasm

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