# Engineered murine fallopian tube epithial cell line that contains rp53 -/-; Ccne1OE; MycOE

**A novel murine cell line derived from fallopian tubes with specific genetic alterations mimics human CCNE1-driven high-grade serous tubo-ovarian cancer (HGSC), enabling in vivo and in vitro studies to explore tumor-immune interactions and test new therapies.**

Researchers have developed a groundbreaking murine cell line derived from fallopian tubes, featuring genetic alterations (rp53-/-; Ccne1OE; MycOE) that replicate the complex biology of CCNE1-driven high-grade serous tubo-ovarian cancer (HGSC). These preclinical models address a critical need for improved therapeutic options for patients with homologous recombination (HR)-proficient HGSCs. The cell lines, which originate from presumed normal cells-of-origin of HGSCs, carry mutant alleles found in human HGSC genomes and form tumors in syngeneic immunocompetent C57BL/6 mice. This effort aims to understand how different HGSC genotypes influence tumor-associated immune microenvironments and modulate responses to current immunotherapies. By introducing common co-occurring mutations observed in both HR-deficient and HR-proficient HGSC patient samples into p53−/− or p53−/−Brca1−/− mutant fallopian tube epithelial cells using CRISPR/Cas9 and viral gene transduction, researchers have created models that allow for the characterization of mutational impacts on the tumor-immune microenvironment. These models facilitate the testing of new combinations of standard therapies and immunotherapies, potentially revealing novel treatment strategies and therapeutic targets to enhance treatment response rates in women with HGSC.

### References


1. Iyer et al. , https://pmc.ncbi.nlm.nih.gov/articles/PMC8344888/#S11


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