"Kidney cancer rapid drug screening using embryonic renal cell culture"

Technology #2696

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Embryonic renal cell culture used as model in drug screening for renal cancers: Cancer is one of the leading causes of death in the United States, and remains a field in which there is significant unmet need for therapeutic options. Current drug discovery models use various screening methods to identify potential therapeutic compounds by testing their level of activity against animal models of disease. Unfortunately, animal models of cancer require significant time and resources to produce, thus presenting a major barrier towards efficient screening of compounds. Indeed, cellular models of cancer which are cheaper and faster to produce are needed in order to achieve higher throughputs in drug screening.

Renal cell cultures grown in 3-4 days for high throughput screening of drug therapies for renal disease: This technology demonstrates the use of a novel embryonic renal cell culture that can be used as a cellular cancer model in drug screening for renal cancers. The invention utilizes a conditional oncologic allele of beta-catenin in order to produce well-defined tumors in culture. In contrast to animal models of cancer, these cultures can be grown rapidly within 3-4 days compared to months in animal systems. Moreover, the system may be modified for models of other types of renal disease including Wims tumors, renal cell carcinoma, and polycystic kidney disease. The technology in general can be used for high throughput screening of drug therapies targeted at renal disease.

Applications: • Drug discovery for renal disease • High throughput screening of active compounds

Advantages: • Requires significantly less time for production (3-4 days) compared to standard animal models (months) • Reduce cost of preparation

Patent Status: Copyright

Licensing Status: Available for Licensing and Sponsored Research Support


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