

# A patient-derived explant culture of human prostate cancer to test drug efficacy

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## Contact person

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## Organisation

**Name of the organisation** Katholieke Universiteit Leuven (KUL)

**Department** Oncology

**Country** Belgium

**Geographical Area** Flemish Region

## Partners and collaborations

University of Adelaide

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Human health
<b>The Method is situated in</b>	Basic Research, Translational - Applied Research
<b>Type of method</b>	In vitro - Ex vivo
<b>Specify the type of cells/tissues/organs</b>	Human prostate cancer tissue

## DESCRIPTION

### Method keywords

Explant

human

Patient-derived

### **Scientific area keywords**

prostate

cancer

drug testing

### **Method description**

Patient-derived explants of prostate cancer provide an *ex vivo* model that retains the architecture and microenvironment of the native tissue. It enables the evaluation of drug responses on individual patient's tumors *ex vivo* without passaging in animals. It is compatible with all molecular analysis methods.

See in the references "A patient-derived explant (PDE) model of hormone-dependent cancer."

### **Lab equipment**

CO2-incubator ;

Laminar flow ;

Cell culture room.

### **Method status**

History of use

Published in peer reviewed journal

## **PROS, CONS & FUTURE POTENTIAL**

### **Advantages**

Patient-derived ;

Ex vivo ;

No animals involved ;

Retains original tissue architecture and tumor microenvironment ;

Economic ;

Reasonable throughput.

### **Challenges**

Long-term culture is challenging ;  
Limited amount of material.

## REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

### References

A patient-derived explant (PDE) model of hormone-dependent cancer. Centenera MM, Hickey TE, Jindal S, Ryan NK, Ravindranathan P, Mohammed H, Robinson JL, Schiewer MJ, Ma S, Kapur P, Sutherland PD, Hoffmann CE, Roehrborn CG, Gomella LG, Carroll JS, Birrell SN, Knudsen KE, Raj GV, Butler LM, Tilley WD. Mol Oncol. 2018 Sep;12(9):1608-1622. doi: 10.1002/1878-0261.12354. Epub 2018 Aug 16

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