

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

Created on: 06-02-2020 - Last modified on: 07-02-2020

## SCOPE OF THE METHOD

<b>Method relates to</b>	Human health
<b>Method is situated in</b>	Basic Research, Translational - Applied Research
<b>Type of method</b>	In vitro - Ex vivo
<b>This method makes use of</b>	Human derived cells / tissues / organs
<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

### Associated documents

## PARTNERS AND COLLABORATIONS

### Organisation

**Name of the organisation** KU Leuven

**Department** Oncology

**Country** Belgium

**Geographical Area** Flemish Region

*Coordinated by*



*Financed by*

