

# Ex ovo chick chorioallantoic membrane model

*Commonly used acronym: CAM model*

*Created on: 22-08-2019 - Last modified on: 08-11-2019*

## Contact person

Hanna Tay

## Organisation

**Name of the organisation** Ghent University (UGent)

**Department** Morphology

**Country** Belgium

**Geographical Area** Flemish Region

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Human health
<b>The Method is situated in</b>	Basic Research
<b>Type of method</b>	In vivo
<b>Used species</b>	chicken embryo
<b>Targeted organ system or type of research</b>	chorioallantoic membrane (CAM)

## DESCRIPTION

### Method keywords

ex ovo

in ovo

chicken embryo

chorioallantoic membrane

vasculature

CAM

### **Scientific area keywords**

angiogenesis

embryogenesis

vascular development

metastasis

tumorigenesis

### **Method description**

The chorioallantoic membrane (CAM) is a highly vascularized membrane which results from the fusion of two extra-embryonic membranes, namely the chorion and the allantois. The CAM is easily accessible for manipulation and imaging, but methodologies differ whether the chicken embryo stays within its shell (*in ovo*), or is transferred to an external recipient (*ex ovo*). In a nutshell, compounds or cells are added to the CAM either by intravenous injection or topical application, and their effect on for example angiogenesis is determined.

### **Lab equipment**

Incubator at 37,8°C and 70-90% humidity.

### **Method status**

Internally validated

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

### **Advantages**

- Fertilized chick embryos are readily available ;
- CAM is easily accessible for manipulation and imaging ;
- Suitable model to study angiogenesis in xenograft onplants or after seeding of allogenic cells, as the chick embryo only develops an adequate immune system shortly after hatching ;
- Short developmental time of the chick embryo (20-21 days) allows for a fast screening of different testing conditions ;

- No special culturing or housing conditions needed ;
- Relatively cheap model.

### **Challenges**

- Embryonic tissue ;
- Limited amount of reagents available for chicken ;
- Avian instead of mammalian model ;
- CAM is susceptible to non-specific angiogenesis.

## **REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION**

*Coordinated by*



*Financed by*

