

## AEG-1 $\Delta$ MAC Mouse Model

### The technology

Astrocyte elevated gene- (AEG-1) and c-Myc are overexpressed in human hepatocellular carcinoma (HCC) functioning as oncogenes. AEG-1 is transcriptionally regulated by c-Myc and AEG-1 induces c-Myc by activating the Wnt/ $\beta$ -catenin signaling pathway. Researchers at Virginia Commonwealth University have documented the cooperation of AEG-1 and c-Myc in promoting hepatocarcinogenesis by analyzing hepatocyte-specific transgenic mice expressing either AEG-1 (Alb/AEG-1), c-Myc (Alb/c-Myc) or both (Alb/AEG-1/c-Myc). Their studies revealed a novel cooperative oncogenic effect of AEG-1 and c-Myc that could explain the mechanism of aggressive HCC. Alb/AEG-1/c-Myc mice provide a useful model to understand the molecular mechanism of cooperation between these two oncogenes and other molecules involved in hepatocarcinogenesis.

- Antigen/Gene or Protein Targets
  - Astrocyte Elevated Gene-1
- Model
  - Conditional KO
- Relevance
  - Mouse model with conditional AEG-1 knockout in myeloid cells
- Productional Details
  - Floxed AEG-1 mouse (AEG-1 $^{fl/fl}$ ) in C57BL/6 background were crossed with LysM/Cre (B6.129P2-Lyz2 $^{tm1}(cre)$ lfo/J)
- Conditional
  - Yes
- Conditional Description
  - Conditional AEG-1 $\Delta$ MAC knockout after single i.p. injection of 10 $\mu$ g/gm body weight of N-nitrosodiethylamine (DEN) given at 14 days of age followed by 0.05% phenobarbital daily in drinking water.
- Strain
  - C57BL/6

### Applications

- » To better understand the molecular mechanism of HCC
- » Develop lung metastasis to evaluate novel therapies targeting, for instance, metastatic disease

#### Category:

Research Tool

#### VCU Tech #:

14-062

#### Investigators:

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#### External Resources:

[Robertson, et. al. \(2018\)](#)

#### Contact us about this technology

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