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Evaluation of pro-oncogenic potential of AGR2 in an ex-vivo model of lung cancer
Anterior Gradient 2 (AGR2) levels in lung tissues

Primary structure of the AGR2 protein: The identified functional domains and amino acids implicated in regulation of its function are indicated by blue shaded boxes.

AGR2 overexpressed in lung cancer tissues
Organotypic culture of human bronchial epithelial cells

Eur Respir J. 2013 Nov;42(5):1345-56.
AGR2 levels in lung organoids

AGR2 overexpressed in lung cancer organoids
Knocking down AGR2 expression

(a) DAPI  GFP  AGR2  Overlay DAPI/AGR2
A549-Sh-Control
A549-Sh-AGR2

(b) A549
Sh-Control
Sh-AGR2
AGR2
CNX

(d) DAPI  GFP  AGR2  Overlay DAPI/AGR2
H1838-Sh-Control
H1838-Sh-AGR2

(e) H1838
Sh-Control
Sh-AGR2
AGR2
CNX

(g) DAPI  GFP  AGR2  Overlay DAPI/AGR2
H23-Sh-Control
H23-Sh-AGR2

(h) H23
Sh-Control
Sh-AGR2
AGR2
CNX
Knocking down AGR2 expression decreases organoid formation.
Mouse Orthotopic Lung Cancer Model

Human Cancer organoids

Human Cancer organoids - shVector

Human Cancer organoids - shAGR2

Metastasis

Tumor

Metastatic cell

Question mark
Knocking down AGR2 expression decreases tumorigenicity in vivo.
Knocking down AGR2 expression decreases organoids formation

Serum AGR2 as an early diagnostic and postoperative prognostic biomarker of human lung adenocarcinoma

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AGR2 secreted and organoids formation?
AGR2 secreted modulates organoid formation/tumorigenicity
Conclusion

Candidate or molecules of therapeutic interest on the regeneration, differentiation, morphogenesis and tumorigenesis of human respiratory epithelium

Role of AGR2 secreted in tumorigenicity, suggesting that this protein could be an interesting target for the successful treatment of lung cancer.
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**FD lab**

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