

## Therapeutic depletion of PIK3R2 for squamous lung cancer

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### Resumen

p85 $\alpha$  (encoded by the PIK3R1 gene) is the regulatory subunit of phosphoinositide 3-kinase that is usually express at highest levels in normal tissues. In contrast, some tumour types express mainly PIK3R2 (p85 $\beta$ ) and reduced levels PIK3R1. We recently showed that increased expression of PIK3R2 correlates with colon and breast carcinoma progression.

In this study we analyzed whether ablation of PIK3R2 expression in tumours with increased PIK3R2 expression reduces their growth once established as xenografs in a mouse. For this purpose, we analyzed PIK3R2 expression in squamous cell lung carcinoma lines, a tumour type currently without specific treatment and an ideal model for the planned therapy.

We found that squamous cell lung carcinoma lines exhibit increased PIK3R2 and reduced PIK3R1 expression levels. To analyze the effects of reducing PIK3R2 expression, we analyzed the influence of silencing its expression once these tumours are established. Our data show that a significant proportion of the squamous lung cancer cell lines reduced its growth (or disappear) after PIK3R2 depletion. Our current aim is to evaluate which of the proteins that selectively interact with p85 $\beta$  (and not with p85 $\alpha$ ) are responsible for its contribution to tumour progression.

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