

Case study:

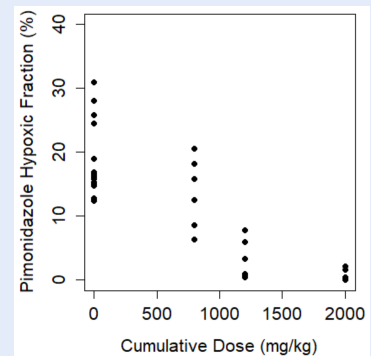
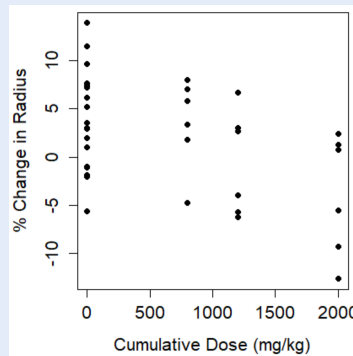
Confirming mechanism of action of CP-506: Convert Pharma

SITUATION

- CP-506 is a next-generation hypoxia-activated prodrug developed by Convert Pharmaceuticals with potential use in numerous solid cancers
- Convert Pharmaceuticals wanted to gain more insight on the relative contribution of several parameters contributing to CP-506 efficacy including tumour hypoxia

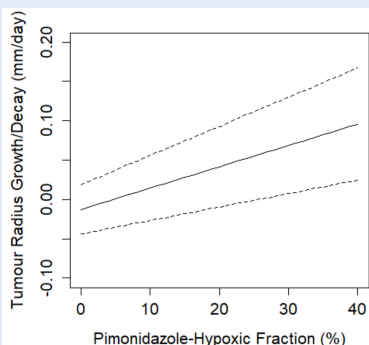
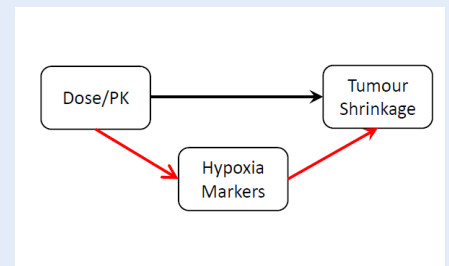
TASK

- Using combined hypoxia biomarker and tumour volume time-series data from the same xenograft dose-response experiment we set out to assess whether the biomarker was a surrogate for efficacy



ACTION

- Built preclinical **Dose (PK) - Efficacy model** and a **Dose (PK) - biomarker - Efficacy model** for a relevant cell-line using a population approach (non-linear mixed-effects)
- Assessed how much of the efficacy can be explained by the hypoxia biomarker



RESULT

- Hypoxia biomarker pimonidazole fully captured the drug effect on anti-tumour activity confirming the mode of action of CP-506
- The results support the use of a hypoxia-related biomarker as a surrogate marker of efficacy in the clinic