

**P036** Regulation of p110 $\delta$  PI3K gene expression  
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The p110 $\delta$  isoform of PI3K is predominantly found in leukocytes. The mechanism of this apparent tissue-specific p110 $\delta$  gene expression is unclear.

We found a tight correlation between p110 $\delta$  mRNA and protein levels, high in leukocytes and low in non-leukocytes, in a large panel of cell lines. We found no evidence for regulation of p110 $\delta$  expression at the level of mRNA stability or DNA modulation (demethylation or hyperacetylation does not affect p110 $\delta$  expression), indicating that expression of p110 $\delta$  is mainly regulated at the transcriptional level.

We found that cells express multiple p110 $\delta$  mRNA transcripts which each contain two 5'-untranslated exons: *exon -1* (relative to the exon with the ATG-translation start-site) in combination with either one of 4 different upstream *-2 exons*. All cell types can express these transcripts but leukocytes express higher amounts and more different p110 $\delta$  mRNA species per cell. Based on a splice donor and acceptor sequence analysis, these transcripts likely arise from multiple transcription start sites, suggesting the presence of multiple distinct promoter regions which are mainly used in leukocytes. Thus far, putative promoter regions identified *in silico* could not be confirmed by reporter assays. Ongoing work aims to identify these promoters.