Prognostic impact of \textit{BIRC3} mutations in a chronic lymphocytic leukemia cohort homogeneously treated with first line fludarabine, cyclophosphamide, and rituximab

\textbf{In vitro study}

- \textit{BIRC3} mutated primary chronic lymphocytic leukemia (CLL) cells showed a delayed fludarabine-induced cell death

\textbf{Clinical study}

- 287 untreated patients with CLL
- First-line fludarabine, cyclophosphamide, and rituximab (FCR)
- Targeted next generation sequencing of 24 recurrently mutated genes in CLL

\begin{itemize}
\item Median follow-up 6.8 years
\item Median progression free survival (PFS) 4.6 years
\item Median overall survival (OS) 11.7 years
\end{itemize}

- 3.1\% patients with \textit{BIRC3} mutations

\begin{center}
\begin{tabular}{l|l|l}
 & \textit{BIRC3} mut & \textit{BIRC3} wt \\
\hline
Median PFS & 2.2 years & \\
CR after FCR & 22.2\% & 76.7\% \text{ p=0.001}
\end{tabular}
\end{center}

\textbf{BIRC3} mutations may be used as a new molecular predictor to select high-risk patients for novel frontline therapeutic approaches

\textit{Diop et al., Haematologica, 2020}