

A suggested clinical screening algorithm for Philadelphia chromosome-like acute lymphoblastic leukemia (Ph-like ALL) to be applied outside clinical trials

Screening of newly diagnosed B Cell other ALL

OPTION A

OPTION B

Low density microarray (LDA)

CRFL2 expression (immunophenotyping)

negative

positive

No further evaluation

CRFL2 gene expression (with LDA)

high CRFL2

low CRFL2

low CRFL2

high CRFL2

*FISH for CRFL2

negative

*FISH for ABL1, ABL2, PDGFRB
CSF1R, JAK2, EPOR

negative

*FISH for CRFL2

positive

negative

Ph-Like ALL
JAK mutation analysis

Consider **targeted mutation analysis, exome sequencing or RNAseq

positive

positive

Ph-Like ALL
Consider targeted therapy

No further evaluation

negative

positive

No further evaluation

Ph-Like ALL
JAK mutation analysis

* FISH- Break-apart

** Targeted sequencing for mutations in *JAK*, *IL7R*, *FLT3*, *SH2B3*, *RAS* and *PTPN11*