

# INPLASY PROTOCOL

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**Review Stage at time of this submission:** Data analysis.

**Conflicts of interest:**  
None.

## The impact of BIRC3 gene mutation on the prognosis of chronic lymphocytic leukemia: A meta-analysis

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**Review question / Objective:** The purpose of this study was to explore the relationship between BIRC3 gene alteration and prognosis of chronic lymphocytic leukemia by meta-analysis, so as to provide evidence of Evidence-based medical for the treatment and prognosis of CLL.

**Condition being studied:** Chronic lymphoblastic leukemia (CLL), a group of low-grade malignant small lymphocytic proliferative diseases, which is the most common leukemia among adults in the western countries. Recent studies indicate that BIRC3 gene mutation might be associated with the prognosis of CLL, but the result is still controversial. The purpose of this study was to explore the relationship between BIRC3 gene alteration and prognosis of chronic lymphocytic leukemia by meta-analysis.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 May 2020 and was last updated on 28 May 2020 (registration number INPLASY202050099).

### INTRODUCTION

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prognosis of chronic lymphocytic leukemia by meta-analysis.

## METHODS

**Search strategy:** We will search, with no time restrictions, the following databases for relevant English language literature: PubMed, Web of Science, Science direct. The search string will be built as follows: (BIRC3 OR Baculoviral IAP Repeat Containing 3) AND (CLL OR Chronic lymphoblastic leukemia). The electronic database search will be supplemented by a manual search of the reference lists of included articles.

**Participant or population:** The patients with chronic lymphoblastic leukemia (diagnosed according to standard morphological and immunophenotypic criteria).

**Intervention:** The CLL patients with BIRC3 gene mutation.

**Comparator:** The CLL patients with BIRC3 gene wide-type.

**Study designs to be included:** Cohort study or case-control study.

**Eligibility criteria:** The included literatures are limited to English language articles. ii The subjects of studies were patients with CLL. iii The type of study was a cohort study or a case-control study. iv Observation indicators include hazard ratios (HRs) and 95% confidence intervals (95% CIs) in overall survival (OS) and progression free survival (PFS).

**Information sources:** The database: Pubmed, web of science, science direct. If it have necessary, we will contact with authors.

**Main outcome(s):** The hazard ratios (HRs) and 95% confidence intervals (95% CIs) in overall survival (OS) and progression free survival (PFS).

**Quality assessment / Risk of bias analysis:** The newsastle-ottawascale scale (NOS)

was used to evaluate the quality of the literatures<sup>20</sup>. The NOS scale consists of three dimensions, with nine items. Selective evaluation (4), comparative evaluation (2), and prognostic evaluation (3). Get one point for each item you meet.

**Strategy of data synthesis:** We used the STATA12.0 to calculate the combined hazard ratios (HRs) and 95% confidence intervals (95% CIs) in overall survival (OS) and progression free survival (PFS) to evaluate the prognostic impact of BIRC3 gene mutation in CLL.

**Subgroup analysis:** 1. Mutation type: Mutation and deletion; Mutation. 2. Area: European; Other countries. 3. Sample size: >200; <200.

**Sensibility analysis:** The sensitivity analysis of the effect of BIRC3 gene mutation on the OS and PFS was carried out by sequentially excluding studies.

**Language:** English.

**Country(ies) involved:** UK; USA; Italy; Czech; French; Austria.

**Keywords:** chronic lymphocytic leukemia; CLL; BIRC3.

### Contributions of each author:

Author 1 - Di Cui - Author1 independently screened the titles and abstracts of articles identified by the literature search, retrieved potentially relevant studies and determined study eligibility. Last, Author1 drafted the manuscript.

Author 2 - Jie Zhou - Author2 also independently screened the titles and abstracts of articles identified by the literature search, retrieved potentially relevant studies and determined study eligibility. Than author2 analyzed the datas.

Author 3 - Chuanzhong Mei - Author 3 made a retrieval strategy and finished the paper review.

Author 4 - Weiwei Zheng - Author4 used the newsastle-ottawascale scale (NOS) to evaluate the quality of the literatures.

Author 5 - Erhu Heng - Author make the charts and tables.