MULTICENTER PHASE I STUDY WITH AN 8-DOSE MONOCOCCAL ANTI-CD20 MONOCLONAL ANTIBODY LFB-R603 (UBLITUXIMAB) IN PATIENTS WITH RELAPSED CHRONIC LYMPHOCYTIC LEUKEMIA (CLL)

INTRODUCTION
LFB-R603 is a next generation anti-CD20 monoclonal antibody (mAb) with a modified Fc region profile to allow high binding affinity to the FcγRIII receptor and a stronger antibody-dependent cellular toxicity (ADCC) than the mAb ofatumumab, which is currently approved for CLL treatment.

A second part of this phase I study designed to evaluate a weekly 8 dose regimen was initiated in April 2010. Objectives were to assess the safety, pharmacokinetics and potential efficacy of LFB-R603 in the advanced stage of CLL.

Key inclusion criteria
- Prior anti-CD20 mAb therapy less than 6 months before enrollment
- CBC of normalcy (< 400 k/µL)
- AST and ALT levels ≤ 1.5 x ULN

METHODS
Patients
Twelve patients were included in the study. Baseline characteristics are summarized in Table 1.

Safety
All patients except one (pt 01-06) received the 8 planned infusions without any dose induction. Patient 01-06 withdrew from the study after the second LFB-R603 infusion due to secondary amyloidosis. A total number of 11 drug-related AEs were reported including 17 grade ≥ 3 AEs (see Table 2).

Pharmacokinetics
Table 6. A summary of non-compartmental PK parameters after the first, fourth and the eighth infusion of LFB-R603 are presented in Table 5.

CONCLUSION
- LFB-R603 induced a promising and durable OS in patients with advanced stage CLL at a relatively low dose regimen.
- Pharmacokinetic data indicates that the dose and the schedule of administration could be optimized.
- Toxicity of LFB-R603 is manageable and makes possible a combination with chemotherapy.

Future strategies on CLL and NHL are in development, both as a single agent and in combination with chemotherapy.