Reviewer’s report

Title: Genetic and biochemical markers of hydroxyurea therapeutic response in sickle cell anemia

Version: 2 Date: 25 June 2012

Reviewer: Frederic Galacteros

Reviewer’s report:

The objectives of this work are very important for a better understanding of HU therapy to which clinical and biological responses are quite variable.

However given the heterogeneity of the studied group (age, gender, HC therapy, targeted genetic criteria), the studied patient population is about one tenth of what would be necessary to provide useful informations on oxidative to HC Therapy, relationship.

Minor issues:
- Compliance to HC is not documented. Biological criteria of HC effects are lacking (Hb, MCV, HbF, WBC, Platelet changes)
- Figure 1c is not pertinent, while comparing two almost unrelated (and very small) patient's populations
- The methods for genetic S homozygosity identification are not given. Was patients tested for alpha thalassemia traits, which could influence the response to HC ?
  - A general comment: HC may have an effect on the red-ox status of the patients independantly of HbF response.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

No conflict of interest, listed or any other.