Reviewer's report

Title: Identification of a Novel CK2 Inhibitor - Hematein (3, 4, 10, 6a-tetrahydroxy-7, 6a-dihydroindeno [2, 1-c] chroman-9-one) from a Natural Product Library

Version: 1 Date: 16 August 2008

Reviewer: Khalil Ahmed

Reviewer's report:

The authors should provide the following information:

1. What is the specificity of Hematein towards CK2? Does this inhibitor have activity towards other protein kinases (data indicating the effect of this inhibitor on a battery of other kinases is essential to prove that hematein is a specific inhibitor of CK2).

2. What is the nature of Hematein inhibition of CK2. Is it reversible or irreversible? Is the inhibition through ATP binding site? What is the nature of this inhibition with respect to ATP levels (competitive or non-competitive).

3. To indicate that Hematein is not effective in normal cells, it is important to show that it is able to enter these cells. Also, more than one cell line needs to be evaluated. What is the inhibition level in normal cells? Are these cells surviving despite reduction in CK2 or is there no inhibition of CK2 in these cells which could indicate that the inhibitor is not entering these cells.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have no competing interests.