Reviewer’s report

Title: Novel curcumin- and emodin-related compounds identified by in silico 2D/3D screening inhibit COP9 signalosome associated kinases and induce apoptosis in tumor cells

Version: 1 Date: 27 May 2005

Reviewer: Ning Wei

Reviewer’s report:

General

This paper describes identification and characterization of curcumin and emodin-related compounds and its effect on CSN associated protein kinase activities, on p53 and c-Jun levels, and its effect on cell apoptosis and viability. The study may provide useful information for further drug development.

Several studies on compounds similar to curcumin have been published. The authors should mention these studies and compare them with regard to methods of selection and in their effects on cells, p53 and apoptosis.

On the Abstract background part, the 1st sentence Inhibition of CSN associate kinase by curcumin causes stabilization of p53 connected with massive tumor cell death, most likely induced by apoptosis. This sentence should split to two: 1) curcumin inhibits CSN kinases, 2) curcumin causes tumor cell death and apoptosis. To what extent does the inhibition of CSN kinases contributes to the effect of curcumin on cell death is unclear, and therefore should not be indicated like this in the background section. The part on VEGF (main body background pg 3) was also overstated. Also there are a few places where the sentences do not make sense or unclear. These need to be edited before publication.

On page 9, on the effect of the drugs on p53 and c-Jun level, the authors interpreted the result entirely on protein stability. Since the steady state protein level, instead of half-life of the protein were analyzed, it is possible that altered expression of c-Jun and p53 may also contribute to the observed result. The author should provide data or argument against this possibility. Overall, the data is well controlled and is solid.

Discretionary Revisions (which the author can choose to ignore)
What next?: Accept after minor essential revisions

Level of interest: An article of limited interest

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

Statistical review: Yes

Declaration of competing interests:
I declare that I have no competing interests.