Reviewer’s report

Title: Heparin (GAG-hed) inhibits LCR activity of Human Papillomavirus type 18 by decreasing AP1 binding

Version: 1 Date: 30 May 2006

Reviewer: Carlos Ciudad

Reviewer’s report:

General
Villanueva et al present a paper dealing with the effects of GAG-hed on the activity of human papillomavirus, including viability of HeLa cells, E6/E7 viral transcription, and the possible molecular mechanism exploring the involvement of nuclear factor AP1.
The manuscript is very clear, well presented and well written.
The results are important since GAG-hed could be considered as a molecule to use as an anti-viral and anti-tumoral drug

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
The main criticism is a lack of consistency in the report of the EMSA in Materials and Methods with regard to which is described later on in the legend to Figure 5. The authors state that they end-label the ds-oligonucleotides with alpha-32P-dATP or dCTP and Klenow. This can be done, but then the oligonucleotides have to have sticky ends to allow for the labelling. However, in Figure 5, they say the oligomers were labelled with 32P-ATP or CTP, probably meaning gamma-32P-ATP or CTP. My guess is that a mistake have been made in the description in either one place or the other. Most likely, the authors labelled the ds-oligonucleotides with gamma-32P-ATP and polynucleotide kinase. The authors must clarify this apparent conflict before publication.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1) I wonder if the authors did ever experiment the possibility of treating with GAG-hed at the same time that when injecting with HeLa cells (together). That might increase even further the observed effects.
2) In Figure 5, panel E, it would be nice to show the effects on Sp1 binding (as a negative controls) as the authors did for panels C and D. Also a supershift with specific antibodies against AP1 could be used to ensure the nature of the band that is decreased by GAG-hed treatment in panel B

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
‘I declare that I have no competing interests’