Reviewer's report

Title: Bone Morphogenetic Protein (BMP)-7 expression is decreased in human hypertensive nephrosclerosis MS: 1125618792355098

Version: 1 Date: 12 August 2010

Reviewer: Derek Brazil

Reviewer's report:

Bramlage et al present data showing that BMP7, an anti-fibrotic mediator is decreased in hypertensive sclerosis and is regulated by ATII in HK2 cells. The data are of value but the following needs to be addressed before acceptance.

Major Compulsory Revisions

1. If the expression of BMP7 in vivo is mainly in the CD and DCT, why use the proximal tubule cell line HK2 for experiments?

2. Fig. 1 refers to RNA expression-this is incorrect and should be changed throughout the text.

3. Fig. 3-not clear what samples were used here-why not compared control to sclerosis in these stainings?

4. Fig. 4-staining needs to be quantified for the decrease in BMP7

5. Fig. 9 Western blot needed to show decrease in TGFb1 receptor

6. For the effect of BMP7 on TGFbtype I receptor, the authors need to show a functional consequence of this effect. HK2 cells should be treated with BMP7 for 24hr to reduce the type I receptor level, then TGFb1 should be added for 60 min and pSmad2/3 measured. Only then can they link this effect to the mechanism of inhibition of TGFb1 by BMP7.

7. I dont understand the data on p12 first paragraph. The Western blot data on pSmad1/5/8 in HK2 cells in response to ATII needs to be shown-addtion of ATII decreases pSmad1/5/8-and yet profibrotic BMPs such as BMP2, 4 also signal through pSmad1/5/8 so this data needs to be 1. shown and 2. better explained.

8. The figures should be rearranged to that Fig. 9 and Fig. 8 are swapped around. I would also include the FACS data in Fig. 9

9. The methods for how apoptosis was measured in Fig. 8 are not described-is it apoptosis or cell death being measured?

10. The manuscript is full of typos, grammatical mistakes and unclear abbreviations. The English needs to be carefully checked and corrected before publication.
Minor Essential Revisions

1. Methods relating to PB-MNC isolation (p5) described but no data presented

2. page 10 line 12 please define IMH

3. page 10 line 17: the statement about BMP7 levels being low due to the requirement for 25-20 cycles to see a signal is arbitrary-factors such as primer affinity and PCR efficacy could be at play here. BMP7 levels are low-compared to what?

4. page 10 last line, 30 ug should read 30 uM

5. page 12 what is DIF? Methods on how apoptosis needed.

6. page 12 for the FACS data please refer specifically to Annexin V staining rather than "a different experiment"

7. page 14 line 10-what does progredient mean? Remove and replace with a clearer term

8. in vitro and in vivo are written without a hyphen

9. Fig. 7 title should be a statement

10. Fig. 8 apoptosis spelt wrong

11. Reference to "t-test" in the paper-Student t-test is a more standard description

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

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:

I declare that I have no competing interests