Reviewer’s report

Title: p21 is decreased in polycystic kidney disease and leads to increased epithelial cell cycle progression: Roscovitine reverses this effect

Version: 2 Date: 27 July 2007

Reviewer: Albert C.M. Ong

Reviewer’s report:

General
The authors have provided some additional data to support their conclusions. However there are still important issues to be considered.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The title should be changed as the data are not strong enough to support this statement.
The IHC resolution has improved but I would suggest higher power views to visualise subcellular location for Fig 2.
While p21 expression is reduced in ADPKD kidney, it is unclear that the authors have achieved knockdown of p21 in MDCK cells (Fig 5). They effectively say this in their response. It would be worth using a different approach to knockdown p21 such as using RNAi.
The changes using AS and SC ODN at 400 and 600 in the MTT assay are clearly no different between AS and the S control (Fig 5). I'm not sure how the authors can then conclude that there are 'changes in proliferation'
Using MTT alone is not sufficient to attribute changes in cell metabolism to proliferation. A second assay of DNA synthesis or cell cycle transit is required.
The authors have not responded to the request for quantification of their 3 experiments of p21 increase with Roscovitine.
The statement that roscovitine reverses the decrease in p21 seen in PKD can only be made if direct data is provided on cystic tissue or cells. Alternatively that it can reverse the changes in proliferation following p21 knockdown.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)
What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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 declare that I have no competing interests'