Author's response to reviews

Title: Glycogen Synthesis correlates with androgen-dependent growth arrest In Prostate Cancer

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Version: 2 Date: 9 March 2005

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BMC: J. of Urology

Dear Editor,

I would like to resubmit the article Glycogen Synthesis correlates with androgen-dependent growth arrest In Prostate Cancer by Schnier et al., in BMC: J. of Urology. I would like to thank the reviewers for the useful comments. The following changes have been made.

Reviewer: Steven Balk
Comment to General: Although it is true that glycolysis reduction/inhibition is a general result of growth arrest, this fact could be used as a therapeutic means to enhance the efficacy of hormone therapy in metastatic prostate cancer, which often results in recurrence. Thus additional treatment of cells further enhancing the exit from the cell cycle could reduce the chance for recurrence. Furthermore, as we have shown in a previous paper inhibition of glycogen phosphorylase by CP-91149 is abrogated in a number of highly malignant cancers. Therefore, changes in glycogen metabolic enzyme regulation may be part of the cancer phenotype.

Minor revision: Figures 5A and B have been corrected in the text.

Reviewer: Anna M. Gomez Foix
Major comments:
1. The GS activities are expressed as nMol/min/mg protein. The description to Fig 3 has been changed accordingly.
2. The Glucose-6-P measurements have been repeated and data are expressed as nMol/mg protein.
3. The data for GP activities have been revised and are expressed as nMol/min/mg protein.
4. The identities for PC3-AR-V and E7 clones have been defined more accurately.
5. The sentence in question in the Discussion has been revised. The fact that the PC3-AR cells react to androgen addition with growth arrest unlike the LNCaP cells, which react with growth inhibition upon androgen ablation has been explained in the beginning of the Result section. This phenomenon is until now unexplained but the PC3-AR model is generally used as a model to study the effect of androgen on prostate cancer cells.

Minor comments:
1. I received the PC3 cells originally from the Cancer Center from Dr. Gumerlock who is a coauthor on this paper.
2. I acknowledged that muscle GP is allosterically activated by AMP. To my knowledge it has not been reported for the brain GP. However, I have done measurements using cell extracts from cells, which only express brain GP, in the absence and presence of AMP and found that brain GP is activated by AMP (unpublished).
3. The composition of the lysis buffer has been added.
4. The sentence Cells from 9 was altered.
5. PCA was spelled out as Perchloric acid.
6. The nomenclature for the PC3-AR cells has been specified throughout the text.

Yours sincerely
Joachim Schnier, PhD