Reviewer's report

Title: Membrane testosterone binding sites in prostate carcinoma as a potential new marker and therapeutic target: Study in paraffin tissue sections

Version: 1 Date: 1 March 2005

Reviewer: james mohler

Reviewer's report:

General
The authors have developed an immunohistochemical method for recognition of membrane androgen receptors, which they have applied to archival samples of 109 prostate cancers and 103 benign prostates. They report that membrane androgen receptors are expressed more often in advanced prostate cancers that are poorly differentiated. They suggest that membrane androgen receptors may be a biomarker of aggressive disease and may possibly provide specific targets for new novel therapies. This is outstanding research, which suffers from poor presentation.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. The authors have confused grade with stage and have reported Gleason grades in an unusual fashion. They should report Gleason primary and secondary grade and what they call Gleason score is actually Gleason sum. Others have shown that primary pattern 4 vs. primary pattern 3 represent two distinct levels of aggressiveness of Gleason sum 7 prostate cancers. Their data should be re-reported using modern categories for clinical stage (TNM) and a more appropriate analysis based on Gleason grades.
2. The authors have obtained tissue by biopsy, transurethral resection and radical prostatectomy. Tissue fixation will differ markedly between radical prostatectomies (slow fixation with variable time at room temperature prior to fixation) and the transurethral resections and transrectal biopsies. The transurethral resection specimens may not have been placed immediately into fixative where transrectal biopsies always are. The authors should examine whether there is any difference in membrane androgen receptor expression when comparing the three different groups of tissues.

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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. The authors need to be consistent in their nomenclature with respect to prostate cancer and benign prostate hyperplasia and attend to the many typographical errors and errors in grammar.
2. The suggestion that these findings may have potential for novel therapeutics seems to be a stretch. It is more appropriate they limit the significance of these results to development of a biomarker for prostate cancer aggressiveness.
3. The data in figure 4 should be reported with error bars.
4. What is almost annihilated? Is that similar to partially obliterated?

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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: Needs some language corrections before being published

Statistical review: No

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