Reviewer's report

Title: Expression of a novel carbonic anhydrase, CA XIII, in normal and neoplastic colorectal mucosa. Comparison to other cytosolic isozymes, CA I and II

Version: 1 Date: 28 December 2004

Reviewer: Isao Nishimori

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Kummola et al. immunohistochemically studied expression of novel carbonic anhydrase (CA) XIII in human colorectal tissue sections and showed CA XIII expression is down-regulated during carcinogenesis of the colorectal epithelial cells. The analysis of CA XIII expression has not been reported in any tumor types and thus the findings presented are of potential importance.

Major comments:
1. The synthetic peptide used for the production of the rabbit anti-sera includes the highly conserved amino acid sequence in the CA gene family: QPSI. Is there any possibility that the anti-sera cross-react with other CA isozymes?
2. Discussion is far from the data presented. The present study includes no data to speculate for the question: why at least three cytoplasmic CA isozymes are physiologically coexpressed in a single cell. Only the very last paragraph in Discussion is good enough for this paper.
3. If lower expressions of CA1, CA2 and CA 13 in colorectal cancer cells, as compared to their normal counterparts, are due to loss of chromosome 8q, it would be interesting to study chromosomal alterations in several colorectal specimens used in this study.

Minor comments:
4. Introduction is too long. The authors repeated similar statements in Discussion.
5. Are there mistake in the number of tissue specimens? Thirty-two distinct areas (from 12 patients) = 12 normal samples + 21 pathological lesions? They should be clearly stated.

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential 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.