Author's response to reviews

Title: GenexGene interaction between MnSOD and GPX-1 and breast cancer risk: a nested case-control study

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Version: 2 Date: 24 July 2006

Author's response to reviews: see over
Dear Dr. Puelba,

Thank you for considering our manuscript, “Gene×Gene interaction between MnSOD and GPX-1 and breast cancer risk: a nested case-control study” (manuscript # 1168287284102742), for publication in BMC Cancer. We appreciate the reviewers time and comments, and have made the following revisions to the manuscript. A version of the manuscript with revisions underlined, as well as a version without underlining, is uploaded to the BMC Cancer website.

**Reviewer: Jenny Chang-Claude**

To address Dr. Chang-Claude’s major compulsory revision concerning clarification of the Ala allele being more “active” as compared to the Val allele at MnSOD codon 16, we modified the last sentence of the introduction to read:

“However, given that both genes act as antioxidants, we hypothesized that being homozygous for the 198Leu allele of GPX-1 which is less responsive to selenium [3], and the 16Ala allele of MnSOD which is associated with increased urinary DNA adduct levels [4] increases breast cancer risk.”

We have also modified the manuscript in response to the minor essential revisions.

**Reviewer: Ari Hirvonen**

To address Dr. Hirvonen’s question regarding the number of internal blinded QC samples, we have included more detail in the methods section pertaining to the QC replicates in this study.

**Reviewer: Rui Medeiros**

To address Dr. Medeiros’ request for revision to include more discussion on the importance of these polymorphisms influencing the pathophysiology of breast cancer, we have included more discussion on the biological relevance and context of the genes studied.

We thank the reviewers for their time and consideration of our work.