Author's response to reviews

Title: Fas Activated Serine-Threonine Kinase Domains 2 (FASTKD2) mediates apoptosis of breast and prostate cancer cells through its novel FAST2 domain

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Author's response to reviews:

To the editors

This paper was initially submitted to Molecular Cancer. However the editors felt that it was more suitable for BMC Cancer.

Enclosed is a manuscript entitled “Fas Activated Serine-Threonine Kinase Domains 2 (FASTKD2) mediates apoptosis of breast and prostate cancer cells through its novel FAST2 domain” by Sharmistha Das, Kay T. Yeung, Muktar A. Mahajan, and Herbert H. Samuels.

In previous studies we found that expression of the co-regulator NRIF3 selectively and rapidly leads to apoptosis in a wide variety of breast cancer cell lines but not cell lines of other origin (e.g. HeLa, 293T, U2OS, UOK-145, HepG2). This apoptosis results from the rapid de-repression of the FASTKD2 gene. In this current study we show that several different prostate cancer cell lines also undergo apoptosis through the FASTKD2 pathway. FASTKD2 is one of 5 related proteins encoded by the human genome (FASTKD 1, 2, 3, 4, 5). Of these we show that only FASTKD2 is de-repressed by NRIF3 and exogenous expression of these 5 proteins indicates that only FASTKD2 leads to apoptosis. The region of FASTKD2 that leads to apoptosis is the 81 amino acid FAST2 domain. Our studies indicate that rapid de-repression of FASTKD2 by NRIF3 acts to selectively mediate apoptosis in breast cancer and prostate cancer cells though the short FAST2 domain of FASTKD2 that initiates the apoptotic response.

This manuscript presents original research and has not been previously published and is not being considered for publication elsewhere. We believe that this study provides new insights into the mechanisms involved in determining breast cancer and prostate cancer cell survival that may lead to possible new therapeutic approaches.
We hope that BMC Cancer finds our manuscript suitable for publication.

Herbert Samuels for the Authors
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