CC: Brian Smith, UCSF RIO

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Memorandum

Date: February 7, 2018

From: Dr. Anthony Baker, Research Biologist

Subj: Report of Research Misconduct Inquiry – Joint Inquiry Led by VA

To: Bonnie D. Graham, M.B.A. Director, San Francisco VA Medical Center

1. Summary of Findings

The research Inquiry Committee consisted of Anthony Baker (Chair), James Frank (member), and Paul Sullam (member and representative for UCSF). The purpose of the inquiry was to recommend if each allegation has sufficient substance to warrant opening a formal investigation.

The committee reviewed 37 allegations of research misconduct related to 21 published papers involving 5 principal investigators (PIs) who are currently working at the San Francisco VA. The committee reviewed and discussed each allegation in detail on November 17, 2017. The committee then met with each of the PIs on December 8, 2017, to discuss the allegations.

After review of the allegations, discussion with the PIs, review of original data, and review of corrective data offered, the committee voted unanimously on the following.

For 3 PIs ([redacted], the committee was satisfied with the PI responses and does not recommend opening a formal investigation into the 10 allegations associated with these PIs.

For 2 PIs (Tanaka, and Dahiya) the committee concerns were not entirely allayed by the PI responses and therefore, the committee does recommend opening a formal investigation of the allegations associated with these PIs.

2. Summary of allegations reviewed.

All 37 allegations itemized in the appointment letter to the Chair of this enquiry were reviewed by the inquiry committee. Specifically:

a. In *Oncogene* (2007) 26:7647-7655:

i. The same band, flipped vertically and stretched, is used to represent LNCaP cells in the AEG-1 panel in Figure 1D and control PMO treated PC-3 cells in the AEG-1 panel in Figure 2b.

ii. The same bands, flipped over a horizontal axis are used to represent LNCaP cells in the Anti-PTEN panel in Figure 4a and CE of LNCaP cells in the Anti-phospho-FOXO3a panel of Figure 4c.

iii. In Figure 4b, lanes 2-6 of the Anti-p-FOXO3a panel are also used to represent lanes 1-5 in the Anti-p27KIP1 panel.

iv. The same band is used to represent untreated DU145 cells in the Anti-AKT panel in Figure 4a and untreated CE from DU145 cells in the Anti-phospho-FOXO3a panel in Figure 4c.

v. In Figure 4c, the same bands are used to represent CE from PC-3 cells in the Anti-FOXO3a panel and NE from DU145 cells in the Anti-phospho-FOXO3a panel.

vi. In Figure 5A and 5C, the same band is used 4 times to represent (1) NF-κB binding in AEG-1 PMO treated PC-3 cells, (2) NF-κB binding in AEG-1 PMO treated DU145 cells, (3) AP-1 binding in AEG-1 PMO treated PC-3 cells and (4) AP-1 binding in AEG-1 PMO treated DU145 cells.

b. In *Intl J of Cancer* (2008) 123:552-560 (*IJC*):

i. The same two bands are used to represent PC-3 cells in the p65 panel of Figure 2C of *IJC* and PC-3 cells in the Anti-IL-6 panel of Figure 5e of Oncogene (2007) 26:7647-7655 (*ONC*).

ii. Lanes 5-8 of the p50 panel in Figure 2C of *IJC* are the same as lanes 1-4 of the Anti-MMP-9 panel in Figure 5e of *ONC*.

iii. The same two bands are used to represent (1) NE from PC-3 cells in the Phospho-FOXO3a panel in Figure 1e of *IJC*, (2) NE from LNCaP cells in the p65 panel of Figure 2C of *IJC*, (3) LNCaP cells in the Anti-IL-6 panel of Figure 5e of *ONC* and (4) DU145 cells in the Anti-MMP-9 panel of Figure 5e in *ONC*.

c. Duplication between *Clin Cancer Res* (2004) 10:2015-2019 (*CCR*) and *Cancer Res* (2003 15:3913-3918 (*CR*):

i. The bands representing the genotyping for codon 119 in the Common Allele from renal carcinoma patients in Figure 1B of *CCR* are the same as the bands used to represent the genotyping for codon 119 in the Common Allele from endometrial cancer patients in Figure 1B of *CR*.

ii. The bands representing the genotyping for codon 119 in the Rare Allele from renal carcinoma patients in Figure 1B of *CCR* are the same as the bands used to represent the genotyping for codon 119 in the Rare Allele from endometrial cancer patients in Figure 1B of *CR*.

iii. The bands representing the genotyping for codon 432 in the Common Allele from renal carcinoma patients in Figure 1B of *CCR* are the same as the bands used to represent the genotyping for codon 432 in the Common Allele from endometrial cancer patients in Figure 1B of *CR*.

d. In Figure 6A of *Mol Cancer Ther* (2010) 9:1680-7, there are possible splice sites in the panels for Bcl2, Cyclin B2 and Cyclin E2 but not in the corresponding c-Fos, Bcl2, Bcl-w, p53 and GAPDH panels.

e. In *Clin Can Res* (2007) 13:2541-2548, the background signal is artificially low for the panels representing:

i. In Figure 5A, AcH4 modification of the RASSF1A gene in LNCaP cells

ii. In Figure 6, AcH4 modification of the RASSF1A gene in cells untreated for 5-aza-dC and TSA

f. In *Br J Cancer* (2014) 110:1645-1654:

i. In Figure 4D, part of the panel used to represent PC-3 cells transfected with miR-NC was also used to represent part of the panel representing PC-3 cells transfected with miR-1260b in the top row (the zero time point).

ii. In Figure 5D, the sFRP1 panel and Smad4 panel appear to come from different blots, while the corresponding Beta-tubulin panel appears to come from one continuous blot.

g. In Figure 3 of *Cancer Res* (2012) 72:3618-3630, the panels representing a transwell migration assay of LNCaP cells transfected with miR-CON and miR-708 in (C) are stretched and also used to represent an invasion assay with PC3 cells transfected with miR-CON and miR-708 in (D).

h. In Figure 4C of *Cancer Res* (2012) 72:6435-6446, the same panel is used to represent a migration assay of DU145 cells that were mock transfected and DU145 cells that were transfected with cont-miR.

i. In *Mol Cancer Ther* (2013) 12:1049-1059:

i. In Figure 2A, the panel representing JNK in LNCaP cells is the mirror image of the JNK panel representing PC-3 cells.

ii. In Figures 4E and 4F, the same panel is used six times to represent (1) IgG/Bak in LNCaP cells, (2) IgG/Bak in PC-3 cells, (3) IgG/Hrk in LNCaP cells, (4) IgG/Hrk in PC-3 cells, (5) IgG/BAK in LNCaP/Hrk siRNA-1 cells and (6) IgG/Bak in PC-3/Hrk siRNA-1 cells.

iii. In Figure 4G, the same panel is used to represent IgG/Bak in LNCaP cells and IgG/Bak in PC-3 cells.

j. In Figure 1B of *PLoS ONE* (2012) 7:e46743, in the top row, the MERGED panel cannot be an overlay of the DAPI and FITC panels as presented because the FITC image does not correspond to the other two.

k. In Figure 5D of *Clin Cancer Res* (2013) 19:73-84, in the top row in the miR34b transfected cells, the Merge panel cannot be an overlay of the Snail and DAPI panels as presented because the DAPI image does not correspond to the other two.

l. In Figure 7d of *Oncogene* (2017) 36:2667-2679, the same image of a mouse, but with a slightly different exposure, is used to represent bioluminescence at both day 28 and day 45.

m. In *Br J Cancer* (2013) 108:2070-2080:

i. In Figure 5C, there is a possible splice site in the sFRP1 panel, but no splice sites in the corresponding Dkk2, Smad4 and β-tubulin panels.

ii. In Figure 6B, there are possible splice sites in the sFRP1 and Smad4 panels, but no corresponding splice sites in the corresponding Tubulin panels.

n. In Figure 1 of *J Urol* (2000) 163:1339-1342:

i. The same band is used to represent lane 6 and lane 10 of the BPY2 panel.

ii. The same band is used to represent lane 7 and lane 11 of the BPY2 panel.

o. In Figure 6 of *Mol Carcinogenesis* (2001) 32:19-27, the same band is used five times to represent the PCR product of (1) the E-cadherin gene in caki-2 cells treated with 5-AZA, (2) the E-cadherin gene in HRCE cells treated with 5-AZA, (3) the β-actin gene in 786 cells treated with 5-AZA, (4) the β-actin gene in caki-2 cells treated with AZA-5 and (5) the β-actin gene in HRCE cells treated with 5-AZA.

p. In Figure 1 of *BBRC* (2002) 297:558-564, the same image is used to represent genotyping at codon10 (bottom left panel) and genotyping at codon 87 (bottom middle panel).

q. In Figure 2 of *Intl J of Impotence Res* (2009) 21;348-355:

i. The same band is used to represent the CAT gene from healthy controls and the CAT gene form diabetes mellitus (DM) patients.

ii. The same band is used to represent the β-actin gene from healthy controls and the β-actin gene from DM patients treated with Tempol.

r. In Figure 2C of *Carcinogenesis* (2012) 33:501-508, the CTNNB1 and Survivin panels appear to come from two separate blots, while the corresponding MEK1 and Beta-Tubulin panels appear to come from one continuous blot.

s. In Figure 3c of *PLoS ONE* (2012) 7:e51056, the Smad4 panel appears to come from two separate blots while the corresponding RECK and Beta-tubulin panels appear to come from one continuous blot.

t. In Figure 2c of *Oncotarget* (2017) 13:39087-39100, the same image is used to represent an MTS assay of both PC-3 cells transfected with shRNA construct #4 (middle panel) and DU145 cells transfected with shRNA construct #2 (bottom panel).

3. Research and funding involved

The research involves work conducted at the San Francisco VA Medical Center between the years 2000 – 2017 and involves five Principal Investigators (PIs) still currently working at the VA San Francisco. All the PIs are members of the Urology Division.

The Research Integrity Officer (RIO) at the San Francisco VA Medical Center has determined that these allegations pertain to VA research funded by VA Merit Review, VA REAP, and VA Program Project Award, NIH grants R01CA101844, R01AG021418, R01CA108612, R01CA111470, T32DK007790, R01AG016870, R01CA130860, R01CA138642, R01CA160079, R01CA177984, R01DK47517, R01AG16870, R01CA64872, R01DK075524, Department of Defense, Yamada Science Foundation, Japanese Ministry of Education, Science, Sports, Culture, and Technology, and the National Research Foundation of Korea

4. The basis for the determination that each allegation falls within the scope of VHA Handbook 1058.02

The committee closely adhered to the scope defined in the appointment letter to the Chair. Namely, that the inquiry was convened for the sole purpose of determining whether the allegations referenced above have sufficient substance to warrant opening a formal investigation.

On Friday November 17, 2017, the committee discussed each allegation in detail and reviewed magnified images of all figures involved. The committee found that with three exceptions noted below, all of the allegations raised reasonable concerns that required further explanation. In accordance with VA Handbook 1058.02, the committee considered that the concerns identified in the allegations *might* involve fabrication or falsification. Moreover, the allegations *might* involve behavior that is a significant departure from accepted practices of the research community and *might* be committed intentionally. The three exceptions were the papers identified in the list above as item j. (*PLoS ONE* (2012) 7:e46743), item k. (*Clin Cancer Res* (2013) 19:73-84) and item q. (*Intl J of Impotence Res* (2009) 21;348-355). The committee found unanimously that allegations involving these three papers did not raise serious concerns that required further explanation. Specifically, for item j., in Figure 1, the merged image of two figure panels (DAPI and FITC) was consistent with the FITC panel being blank. Thus, the allegation that the FITC panel did not correspond to the other two was found incorrect. As noted below, [redacted] provided the same response to the committee. For item k., the committee agreed with the allegation that the merge panel cannot be an overlay of the Snail and DAPI panels. However, the committee found that the DAPI data and snail data did exactly correspond in the merge panel. Thus, the committee found that the true DAPI data was likely represented in the merge panel. Thus, the committee felt that a correction to the journal was the most appropriate response for this item, rather than opening a formal investigation. As noted below, [redacted] did offer an acceptable correction. For item q., the committee did not agree with the allegation of two instances of duplicated bands in Figure 2. On examination of an enlarged of Figure 2, the bands in question appeared to be different.

5. Recommendation to open an investigation.

On December 8, 2017, the Inquiry Committee met with each of the five Principal Investigators to discuss their responses to the allegations. For some of the allegations enumerated below, the committee was satisfied with the explanations provided by the PIs. In particular, the committee concerns regarding some of the allegations was allayed by the presentation of i) corrected data sets; ii) dated materials to corroborate that the corrected data was contemporaneous with the original data; and iii) corrections offered to the journals.

Accordingly, based on the standards of VA Handbook 1058.02, the committee was satisfied with the responses from the following PIs for the following allegations:

[redacted] interviewed for item g. (*Cancer Res* (2012) 72:3618-3630), and item l. (*Oncogene* (2017) 36:2667-2679).

[redacted] interviewed for item h. (*Cancer Res* (2012) 72:6435-6446), item j. (*PLoS ONE* (2012) 7:e46743), and item k. (*Clin Cancer Res* (2013) 19:73-84). (Note that for item j. and item k. as noted in section 3 above, the committee had already determined that these items did not raise serious concerns that required further explanation).

[redacted] interviewed for item d. (*Mol Cancer Ther* (2010) 9:1680-7).

For these allegations enumerated above, the committee does not recommend opening an investigation.

For all remaining allegations, the committee does recommend opening an investigation.

6. Description of the evidence reviewed

For all allegations, the committee reviewed magnified images of the data figures. As enumerated below, for some allegations, the committee also reviewed:

- Original data associated with the allegations
- Corrected data to replace errors that were identified by the allegations
- Computer files and laboratory notes to establish that the corrected data was contemporaneous with the originally published data
- Letters of correction to the journals

7. Analysis to support recommendation

Papers for which [redacted] was interviewed

Item g. (*Cancer Res* (2012) 72:3618-3630): [redacted] acknowledged the duplication Figure 3 panels C and D. [redacted] explained that the original version of the manuscript at the proof stage of publication did not contain this error, but the error occurred during the final proof reading and editing stage. Accordingly, [redacted] requested that the journal revert to the original version of the figure that did not contain the panel duplication. [redacted] provided the original version of the figure without error, and a letter to the journal requesting correction. The committee was satisfied with this response.

Item l. (*Oncogene* (2017) 36:2667-2679): [redacted] acknowledged that the Figure 7d contained a duplicated image. [redacted] provided a corrected image, and computer files of the original data that were contemporaneous with the original data. [redacted] provided a copy of a letter to the journal requesting correction. The committee was satisfied with this response.

Data management problems involving [redacted] were identified during the previous investigation of the Urology research group. However, the data management error involved in item l. occurred *after* [redacted] had been made aware of a need for her to improve her handling of data. Accordingly, follow-up with [redacted] is warranted to further improve her data management practices.

Papers for which [redacted] was interviewed

Item h. (*Cancer Res* (2012) 72:6435-6446): [redacted] acknowledged that the same image was used to represent two different assays. [redacted] explained that the image duplication was an error and provided the correct image files that were contemporaneous with the original data. [redacted] also provided correspondence with the journal requesting correction of the figure. The committee was satisfied with this response.

For the following items (j. and k.), the committee had determined that these items did not raise serious concerns that required further explanation (see above). Nevertheless, [redacted] chose to respond.

Item j. (*PLoS ONE* (2012) 7:e46743), [redacted] explained that the allegation was incorrect. The allegation was based on one panel of the figure appearing to be blank. [redacted] explained that the panel was indeed blank, and provided the original data files to support this. The committee appreciated this clarification.

Item k. (*Clin Cancer Res* (2013) 19:73-84): [redacted] explained that the published figure did contain an error as described in the allegation. [redacted] provided a corrected image that was contemporaneously dated, and a copy of a letter to the journal requesting correction. The committee appreciated this clarification.

Papers for which [redacted] was interviewed

Item d. (*Mol Cancer Ther* (2010) 9:1680-7): [redacted], acknowledged that he had made a technical error in presenting the data where gel bands had been spliced together. He did not appear to be aware that it was best practice to clearly separate gel bands that originate from different gels or from different positions within a gel. However, he did present the original gel image data, that was dated in 2010, the same year as the original data. The committee was satisfied that the figure in the published paper, did reflect the data as originally recorded. [redacted] response did allay the committee concerns regarding this allegation.

Papers for which Dr. Tanaka was interviewed

Item i. (*Mol Cancer Ther* (2013) 12:1049-1059): Dr. Tanaka acknowledge that the allegation did identify an error in the duplicated panels in Figure 2A. Dr. Tanaka showed a correction for Figure 2A that was recently provided to him by the first author [redacted] who previously worked with Dr. Tanaka as a research fellow. [redacted] described the use of the incorrect figure as a mistake. However, there were no other materials available (lab books, dated computer files, dated gel images etc.) to help establish that the new images were contemporaneous with the data in the original publication.

The other concerns in this publication related to Figure 4 having apparent multiple duplications of images showing empty gel lanes. No original images could be located to verify that these images were unique and not duplicated. Accordingly, the committee concerns were not allayed regarding this allegation.

Item t. (*Oncotarget* (2017) 13:39087-39100): Dr. Tanaka acknowledged that Figure 2C contained duplicated panels. This was also described by the first author [redacted] as a mistake. Dr. Tanaka showed a corrected image (obtained from [redacted] with the duplicated image replaced, along with a letter of correction to the journal. However, there were no other corroborating data to suggest that the replacement data belonged to the original published data. Accordingly, the committee concerns were not allayed regarding this allegation.

On account of continuing concerns, the committee does recommend that the allegations for item i. and item t. do go forward to an investigation. Dr. Tanaka is the senor author and corresponding author for both papers. Therefore, Dr. Tanaka is identified as the respondent for allegations involving items i. and item t. Subsequent investigation may conclude that other members of the research team, especially [redacted] should also be named as a respondent.

Papers for which Dr. Dahiya was interviewed

For all remaining allegations, Dr. Dahiya was interviewed to get more information about the questioned figures. Dr. Dahiya attempted to respond to the concerns raised by the allegations.

Several allegations related to papers that have already been identified as problematic during the course of a previous investigation (items a. b. c. e. and r.). Dr. Dahiya declined to comment on new allegations associated with these publications. The committee was not satisfied with this response because the current allegations regarding these papers represent new issues that were not examined during the previous investigations.

The committee was concerned to note that a new allegation (item b.i.) relates to data contained in a paper that has already been retracted. Specifically, some of the data in the retracted paper appears to be duplicated in the publication listed as item a. This raises a concern on whether the paper identified as item a. also requires correction or retraction. During the previous investigation of the Urology research group, serious problems were identified in the paper identified as item a. As a result, the Associate Chief of Staff for Research, Dr. Grunfeld, contacted the journal (Oncogene) to recommend that the paper be considered for correction or retraction based on the findings of the Investigation Committee. To date there has been no correction, retraction, or editorial expression of concern regarding this paper. The new allegations regarding this paper, if substantiated upon further investigation, should prompt the Journal to reconsider this paper for correction or retraction.

Several allegations involved splices being evident in some gel lanes, but not in the corresponding loading controls. Dr. Dahiya explained that this arose because of the way the gels were processed. Specifically, an image of an intact gel was taken, the gel was then cut into two and each part probed separately with different antibodies. Thus, images of the non-spliced loading control portion of the gel were obtained before the gel was cut, but antibody stained portions were obtained after the gel was cut and therefore showed evidence of splices.

Other allegations were made on the basis of apparent duplicated images of gels being used in different figures. Dr. Dahiya disputed that there was any duplication of images and in support of this provided a technical analysis of the optical density profile of the gel bands concerned. This analysis concluded that the alleged duplications are actually distinctly different bands.

Although the committee found some merit in Dr. Dahiya's explanations, the committee felt that an independent analysis of would be required.

In conclusion, the committee found that the responses from Dr. Dahiya had not allayed the committee concerns. Therefore, the committee voted unanimously that all of the items identified with Dr. Dahiya as respondent (listed below) should proceed to a formal investigation. Dr. Dahiya was identified as the respondent for these allegations on the basis that he is the senior author, corresponding author, and the only common author for numerous publications with allegations raised against them. Subsequent investigation may conclude that other authors on these papers should also be named as a respondent.

8. Respondents for allegations recommended for further investigation

Dr. Yuchiro Tanaka is respondent for the following allegations:

i. In *Mol Cancer Ther* (2013) 12:1049-1059:

> i. In Figure 2A, the panel representing JNK in LNCaP cells is the mirror image of the JNK panel representing PC-3 cells.

ii. In Figures 4E and 4F, the same panel is used six times to represent (1) IgG/Bak in LNCaP cells, (2) IgG/Bak in PC-3 cells, (3) IgG/Hrk in LNCaP cells, (4) IgG/Hrk in PC-3 cells, (5) IgG/BAK in LNCaP/Hrk siRNA-1 cells and (6) IgG/Bak in PC-3/Hrk siRNA-1 cells.

iii. In Figure 4G, the same panel is used to represent IgG/Bak in LNCaP cells and IgG/Bak in PC-3 cells.

t. In Figure 2c of *Oncotarget* (2017) 13:39087-39100, the same image is used to represent an MTS assay of both PC-3 cells transfected with shRNA construct #4 (middle panel) and DU145 cells transfected with shRNA construct #2 (bottom panel).

Dr. Rajvir Dahiya is respondent for the following allegations:

These allegations represent all the allegations, minus those for which the other PIs are identified as respondents, and minus item q. (as noted above, the committee found item q .did not require further investigation).

a. In *Oncogene* (2007) 26:7647-7655:

i. The same band, flipped vertically and stretched, is used to represent LNCaP cells in the AEG-1 panel in Figure 1D and control PMO treated PC-3 cells in the AEG-1 panel in Figure 2b.

ii. The same bands, flipped over a horizontal axis are used to represent LNCaP cells in the Anti-PTEN panel in Figure 4a and CE of LNCaP cells in the Anti-phospho-FOXO3a panel of Figure 4c.

iii. In Figure 4b, lanes 2-6 of the Anti-p-FOXO3a panel are also used to represent lanes 1-5 in the Anti-p27KIP1 panel.

iv. The same band is used to represent untreated DU145 cells in the Anti-AKT panel in Figure 4a and untreated CE from DU145 cells in the Anti-phospho-FOXO3a panel in Figure 4c.

v. In Figure 4c, the same bands are used to represent CE from PC-3 cells in the Anti-FOXO3a panel and NE from DU145 cells in the Anti-phospho-FOXO3a panel.

vi. In Figure 5A and 5C, the same band is used 4 times to represent (1) NF-κB binding in AEG-1 PMO treated PC-3 cells, (2) NF-κB binding in AEG-1 PMO treated DU145 cells, (3) AP-1 binding in AEG-1 PMO treated PC-3 cells and (4) AP-1 binding in AEG-1 PMO treated DU145 cells.

b. In *Intl J of Cancer* (2008) 123:552-560 (*IJC*):

i. The same two bands are used to represent PC-3 cells in the p65 panel of Figure 2C of *IJC* and PC-3 cells in the Anti-IL-6 panel of Figure 5e of Oncogene (2007) 26:7647-7655 (*ONC*).

ii. Lanes 5-8 of the p50 panel in Figure 2C of *IJC* are the same as lanes 1-4 of the Anti-MMP-9 panel in Figure 5e of *ONC*.

iii. The same two bands are used to represent (1) NE from PC-3 cells in the Phospho-FOXO3a panel in Figure 1e of *IJC*, (2) NE from LNCaP cells in the p65 panel of Figure 2C of *IJC*, (3) LNCaP cells in the Anti-IL-6 panel of Figure 5e of *ONC* and (4) DU145 cells in the Anti-MMP-9 panel of Figure 5e in *ONC*.

c. Duplication between *Clin Cancer Res* (2004) 10:2015-2019 (*CCR*) and *Cancer Res* (2003 15:3913-3918 (*CR*):

i. The bands representing the genotyping for codon 119 in the Common Allele from renal carcinoma patients in Figure 1B of *CCR* are the same as the bands used to represent the genotyping for codon 119 in the Common Allele from endometrial cancer patients in Figure 1B of *CR*.

ii. The bands representing the genotyping for codon 119 in the Rare Allele from renal carcinoma patients in Figure 1B of *CCR* are the same as the bands used to represent the genotyping for codon 119 in the Rare Allele from endometrial cancer patients in Figure 1B of *CR*.

iii. The bands representing the genotyping for codon 432 in the Common Allele from renal carcinoma patients in Figure 1B of *CCR* are the same as the bands used to represent the genotyping for codon 432 in the Common Allele from endometrial cancer patients in Figure 1B of *CR*.

e. In *Clin Can Res* (2007) 13:2541-2548, the background signal is artificially low for the panels representing:

i. In Figure 5A, AcH4 modification of the RASSF1A gene in LNCaP cells

ii. In Figure 6, AcH4 modification of the RASSF1A gene in cells untreated for 5-aza-dC and TSA

f. In *Br J Cancer* (2014) 110:1645-1654:

i. In Figure 4D, part of the panel used to represent PC-3 cells transfected with miR-NC was also used to represent part of the panel representing PC-3 cells transfected with miR-1260b in the top row (the zero time point).

ii. In Figure 5D, the sFRP1 panel and Smad4 panel appear to come from different blots, while the corresponding Beta-tubulin panel appears to come from one continuous blot.

m. In *Br J Cancer* (2013) 108:2070-2080:

i. In Figure 5C, there is a possible splice site in the sFRP1 panel, but no splice sites in the corresponding Dkk2, Smad4 and β-tubulin panels.

ii. In Figure 6B, there are possible splice sites in the sFRP1 and Smad4 panels, but no corresponding splice sites in the corresponding Tubulin panels.

n. In Figure 1 of *J Urol* (2000) 163:1339-1342:

i. The same band is used to represent lane 6 and lane 10 of the BPY2 panel.

ii. The same band is used to represent lane 7 and lane 11 of the BPY2 panel.

o. In Figure 6 of *Mol Carcinogenesis* (2001) 32:19-27, the same band is used five times to represent the PCR product of (1) the E-cadherin gene in caki-2 cells treated with 5-AZA, (2) the E-cadherin gene in HRCE cells treated with 5-AZA, (3) the β-actin gene in 786 cells treated with 5-AZA, (4) the β-actin gene in caki-2 cells treated with AZA-5 and (5) the β-actin gene in HRCE cells treated with 5-AZA.

p. In Figure 1 of *BBRC* (2002) 297:558-564, the same image is used to represent genotyping at codon10 (bottom left panel) and genotyping at codon 87 (bottom middle panel).

r. In Figure 2C of *Carcinogenesis* (2012) 33:501-508, the CTNNB1 and Survivin panels appear to come from two separate blots, while the corresponding MEK1 and Beta-Tubulin panels appear to come from one continuous blot.

s. In Figure 3c of *PLoS ONE* (2012) 7:e51056, the Smad4 panel appears to come from two separate blots while the corresponding RECK and Beta-tubulin panels appear to come from one continuous blot.

9. Statement of joint inquiry between SF VA and UCSF.

This Inquiry report represents a joint report of the San Francisco VA Medical Center and UCSF.

The University of California, San Francisco (UCSF) has concurrent jurisdiction over one or more of the allegation(s) referenced above based on the fact that several of the authors of the papers in question are UCSF faculty members and at least one of the grants supporting the work in question was administered by UCSF. UCSF jointly participated in the inquiry, which was led by the San Francisco VA Medical Center in accordance with the procedures of VHA Handbook 1058.02. Dr. Paul Sullam, who is a Professor of Medicine at UCSF, served as UCSF's representative to the inquiry.

Signed,

Anthony J. Baker, Ph.D.
Chair of Inquiry Committee.
Research Biologist, San Francisco VA.
Professor of Medicine, UCSF.

cc: Sheila Cullen, Director, VA Sierra Pacific Network, VISN 21 (10N21)
Dr. Shara Kabak, Research Misconduct Officer, Office of Research Oversight (10R)
Dr. Robert Nissenson, Research Integrity Officer, San Francisco VA Medical Center
Brian Smith, Acting RIO, UCSF (c/o Kelly Simmons, UCSF Box 0294)