



(Billing Code: 4150-31)

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

Findings of Research Misconduct

AGENCY: Office of the Secretary, HHS.

ACTION: Notice.

SUMMARY: Notice is hereby given that the Office of Research Integrity (ORI) has taken final action in the following case:

Juan Ma, Ph.D., Brigham and Women's Hospital and Harvard Medical School: Based on evidence and findings of an inquiry conducted jointly by Brigham and Women's Hospital (BWH) and Harvard Medical School (HMS) and additional evidence gathered by the Office of Research Integrity (ORI) during its oversight review, ORI found that Dr. Juan Ma, former Research Fellow, BWU, engaged in research misconduct in research supported by National Cancer Institute (NCI), National Institutes of Health (NIH), grant 5 P01 CA120964.

ORI found that the Respondent knowingly and intentionally fabricated and falsified data in portions of figures in an unpublished manuscript titled "TSC1 loss synergizes with KRAS activation in lung cancer development and confers rapamycin sensitivity" by M.-C. Liang, J. Ma,

L. Chen, P. Kozlowski, W. Qin, D. Li, T. Shimamura, M.L. Sos, R. Thomas, D. Neil Hayes, M. Meyerson, D.J. Kwiatkowski, and K.-K. Wong, submitted to the *Journal of Clinical Investigation (JCI)* on August 5, 2008, and in revised form on October 21, 2008 (hereafter referred to as the “*JCI* manuscript”). Specifically, Respondent committed research misconduct by knowingly and intentionally:

- falsifying and/or fabricating those portions of the immunoblots in *JCI* manuscript Figure 1C, to show that in  $Tsc1^{L/L}$  and  $Tsc^{L/+}$  mouse lung cancer cells compared with KRAS induced lung cancer cells, there were reduced Tsc1 and Tsc2 protein levels, reduced phospho-AKT-S473 levels, and increased phospho-S6-S249/244 levels, consistent with the hypothesis that introduction of the  $Tsc1^L$  gene resulted in mTORC1 activation
- falsifying and/or fabricating those portions of the immunoblots in Figure 3A of the *JCI* manuscript to show data consistent with the hypothesized TNS null signaling lung tumor cells: functional loss of Tsc1/Tsc2, high phospho-S6-S249/244 levels, and low phospho-AKT-S473, with recovery of phospho-AKT-S473 after Rapamycin treatment
- falsifying and/or fabricating those portions of the immunoblots in Figure 3B of the *JCI* manuscript by (i) adding a band in the Tsc2 lane for control cells for the IP blot, and (ii) weakening the Tsc2 band for one of the tumor lysates

- falsifying and/or fabricating immunoblots in Figures 5A and 5B of the *JCI* manuscript so that the data appeared to indicate that TSC reconstitution in TSC null (TNS) cell lines led to reduction of pS6-S240/244 levels during serum deprivation (in the absence of growth factors), as well as increased pAKT(S473) levels in response to serum stimulation.

The *JCI* manuscript was accepted by *JCI* on December 8, 2008, but it was withdrawn by one of the authors on January 6, 2009.

ORI found that Respondent's knowing and intentional falsification and fabrication of data constitutes research misconduct within the meaning of 42 CFR 93.103.

The following administrative actions have been implemented for a period of three (3) years, beginning on May 12, 2012:

- (1) any institution that submits an application for U.S. Public Health Service (PHS) support for a research project on which Respondent's participation is proposed or that uses him in any capacity on PHS-supported research must concurrently submit a plan for supervision of his duties to the funding agency for approval; the supervisory plan must be designed to ensure the scientific integrity of his research contribution; Respondent must ensure that a copy of the supervisory plan is also submitted to ORI by the institution; Respondent will not participate in any PHS-supported research until such a supervisory plan is submitted to ORI;

- (2) Respondent will ensure that any institution employing him submits, in conjunction with application for PHS funds or any report, manuscript, or abstract of PHS-funded research in which he is involved, a certification that the data provided by him are accurately reported in the application or report; Respondent must ensure that the institution send the certification to ORI; this certification shall be submitted no later than one month before funding and concurrently with any report, manuscript, or abstract; and
- (3) Respondent is prohibited from serving in any advisory capacity to PHS, including but not limited to service on any PHS advisory committee, board, and/or peer review committee, or as a consultant.

FOR FURTHER INFORMATION CONTACT:

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