Hoau-Yan Wang Fraud: New Evidence of Serial Deceit and Editorial Failures

Jesse Brodkin <jessebrodkin@yahoo.com> Fri, Jul 1, 2022 at 10:31 AM
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[redacted]

Dear Editors and Publishers -

As you are aware, concerns have been raised regarding research misconduct of Dr. Hoau-Yan Wang in thirty-two (32) papers dating back two decades, including data fabrication that has so far led to seven retractions, multiple Expressions of Concern, an investigation at CUNY, and at least three federal investigations.

We have obtained, via the NYS Freedom of Information Law, a remarkable set of emails revealing the chronology and content of many of Dr. Wang's interactions with journal editors. These documents confirm both the astonishing pattern of Wang's deceit **including the serial submission of fabricated images in response to editorial inquiries (see Appendix A)**, **and the glaring inconsistency in how different journals have evaluated evidence and made and backpedaled on decisions, based on fabricated data provided to them.**

We commend those editors and publishers who have retracted fraudulent papers. However, ***ten months*** after concerns were first raised, several journals have not yet issued retractions of papers exhibiting egregious evidence of fabrication, despite new and incriminating information that has since emerged. Several journals, in fact, published misleading "corrections" and milquetoast "Expressions of Concern", and thus continue to serve as apologists and defenders of Dr. Wang's deceptions.

For all seven (7) papers which have been retracted, Dr. Wang provided editors with supposedly "original" images of "uncropped blots." Astute editors at three different journals from two publishers (Springer Nature and PLoS) observed clear evidence of fabrication in both the published manuscripts and the "original" data later provided, which called into question the integrity and reliability of data in the articles and **necessitated retraction** (**Appendix A**). These determinations were made by editors and image forensics experts at the publishers. This evidence included:

- **Identical patterns of noise in the background** of images of western blots which purportedly represent completely different experiments.
- **Sharp boundaries of rectangular regions** on "original" images with different average levels of background noise.
- Absence of molecular weight markers (or lanes where they might have been present on the original gel) and other expected control experiments missing.
- **Inconsistencies between bands in published figures and the "originals" provided**, including groups of bands that are flipped in orientation, or multiple distinct experiments derived from the same "original" blot.
- **Absurd, non-scientific excuses** that did not even address the concerns raised

There are twenty-five (25) papers outstanding. **For six (6) of these papers, editors have published misleading errata and corrections, based upon and including further instances of fabricated data. In some cases, editors have explicitly stated that they have "found no evidence of manipulation", alongside figures exhibiting exactly the same kind of quantifiable evidence that three other journals concluded had justified retraction.**

We can hypothesize only six reasons to explain the glaring discrepancy in how the same fact pattern has been handled across different journals: apathy, ignorance, incompetence, stubbornness, coercion, or corruption. We do not know which of these factors are responsible.

The table below documents Dr. Wang's serial submission of fraudulent data to rebut accusations of fraud, and establishes that Dr. Wang's *modus operandi* is to deceptively manipulate images. For every paper listed, there is clear evidence (see Appendix A and links to PubPeer) of attempts to mislead, not only in the original manuscripts, but also in responses to requests for original data.This **The sheer number of problematic publications and the consistent methods and indicia of fabrication establish that Dr. Wang and his co-conspirators have intended to deceive.** That Dr. Wang continues this behavior even while a subject of federal investigations shows his incorrigible nature and highlights the urgency of action. Now that Dr. Wang's pattern of deception has been identified, quantified, and documented, not only on PubPeer, but by editors at three independent journals, it is incumbent upon **all** of you to swiftly conclude your investigations and take appropriate action.

Those editors who merely expressed concerns months ago, those who have allowed Dr. Wang to publish misleading errata, and those who have so far ignored concerns entirely must now reevaluate their positions and correct their mistakes. In light of the pattern of deception and Dr. Wang's reliance on now retracted citations, all affected papers should be retracted. We hope that seeing Dr. Wang's consistent dishonesty explicitly arrayed in the table will help you recognize his attempts at fraud in your cases and prevail upon you to complete your inquiries. We have included specific observations and recommendations in the postscript.

It appears that not all involved are aware of the multiple, ongoing investigations. We encourage each of you to contact the other recipients of this email and share the evidence you have found and obtain the evidence you need. This advice may sound elementary, but it is clear that so far, too many decisions have been taken and too much indecision has festered in silos with incomplete information, insufficient communication and a lack of transparency. It is especially problematic that at least six of the most egregiously unresolved papers and published fraudulent errata are under the same publisher. That those journals have ignored Dr. Wang's deceptions and not yet taken action is inexcusable.

Many investigators and editors seem reluctant to act. **You have the authority, institutional duty, and a responsibility to the scientific community to independently ensure the integrity of material published in your journals.** There is no requirement that any publication inquiry waits for any institutional investigation to complete before rendering a decision. Some editors have shown courage and proven this by already issuing retractions despite CUNY's dithering. Helpfully, the COPE guidelines explicitly state "the decision to correct or retract an article should be made by the journal and does not necessarily depend on an institutional finding of misconduct." Within the scientific community, multiple independent conclusions would greatly enhance confidence in the ultimate judgment of Dr. Wang's credibility.

With every day that passes without resolution, more patients enroll in sham clinical trials based on Dr. Wang's completely fraudulent work, more families are given false hope, more investors are fleeced, and the credibility of the entire field of Alzheimer's research and of your institutions deteriorates. Delaying action on the matter before you is not without cost and it is your duty to the scientific community and the public to act promptly and to stand up for scientific integrity and reality.

Sincerely,

Adrian Heilbut, PhD

Jesse Brodkin, PhD

Partrick Markey, PhD

Enea Milioris, PhD

Table 1: Dr. Wang's Pattern of Deception

	Citation & Pubpeer Link	Journal	Physically Implausible claims	Cites retracted papers	Evidence of Data Fabrication Reported in Publication				Evidence of Deliberately Fabricated "Original" Data in Responses to Editor's Inquiry			Status of Paper June 2022
					Cross paper band dupes	Photo-shopped bands or WB background	Missing or Duplicated Controls; Reagent issues	Microscopy Image duplication	Identical noise or discontinuous background in WB	Discrepancies between paper figures & "originals"	Missing controls and markers in "original" western blot images	
1	Wang 2009	PLoS ONE (PLoS)										Retracted by Editors
2	Wang, 2008											Retracted by Editors
3	Bakshi, 2011											Retracted by Editors
4	Bakshi, 2014											Retracted by Editors
5	Stucky, 2016											Retracted by Editors
6	Wang, 2017	Alz Res & Tx (BMC Springer Nature)							Fabricated original data as submitted to editors is now visible via FOIL			Retracted by Editors
7	S Wang 20210	Mol Neurodegen (BMC Springer Nature)							"original" blog images had signs looking like image manipulation per Springer Nature Integrity Group Corresponding author retracted the paper			Retracted by Editors & Authors Article now republished without Dr. Wang and his fabrications
8	Wang 2005	Neuroscience (Elsevier)			Fig 12A	Fig 2, 3, 5			Fig 2,3,5	Fig 2, 3	Fig 5	Misleading erratum published; Expression of Concern
9	Robinson 2021	Neuroscience (Elsevier)							Fig 7A	Fig 4, 7	Fig 4, 7	Misleading erratum published; No Editorial Action
10	Wang 2017	Neurobiol Aging (Elsevier)							Authors' response was not made public. Editors' dismissal of image duplications is demonstrably and quantifiably wrong. Radioassay issues undercut all conclusions.			Many 'errors' acknowledged by editors, which undermine all results of paper No Editorial decision; waiting for CUNY
11	Wang 2012	J Neurosci (SfN)							Fig 9	Fig 9	Fig 6,9	Misleading erratum initially accepted by Editors EoC issued Dec 2021,waiting for CUNY
12	Meade 2021	Physiol & Behavior (Elsevier)							No original images provided; authors merely assert that "data have not been manipulated"			Misleading erratum does not address issues raised
13	Wang Morain 2009	J Neurosci (SfN)							?	?	?	Editor-in-Chief: "No evidence of manipulation" after 94 minutes of review of submitted "original" blots. EoC issued Dec 2021; waiting for CUNY
14	Bakshi 2009	J Neurosci (SfN)							?	?	?	CONCERNS IGNORED BY EDITORS
15	Wang 2011	J Neurosci (SfN)							?	?	?	CONCERNS IGNORED BY EDITORS
16	Wang 2010	Biol Psych(Elsevier)										CONCERNS IGNORED BY EDITORS
17	Wang 2019	Neurobiol Aging (Elsevier)							?	?	?	CONCERNS IGNORED BY EDITORS
18	Wang 2020	JPAD							?	?	?	CONCERNS IGNORED BY EDITORS
19	Talbot 2012	JCI (ASCI)							?	?	?	CONCERNS IGNORED BY EDITORS
20	Hahn 2006	Nature Medicine (Springer Nature)							?	?	?	CONCERNS IGNORED BY EDITORS
21	Wang 2011	Translational Neurosci (De Gruyter)							?	?	?	CONCERNS IGNORED BY EDITORS
22	Wang 2020	Molecular Psychiatry (Springer Nature)							?	?	?	CONCERNS IGNORED BY EDITORS
23	Banerjee 2015	Molecular Psychiatry (Springer Nature)							?	?	?	CONCERNS IGNORED BY EDITORS
24	Paquette 2007	Behavioral Pharmacology (LWW)							?	?	?	CONCERNS IGNORED BY EDITORS
25	Wang & Burns 2006	Journal of Neurobiology (Wiley)							?	?	?	CONCERNS IGNORED BY EDITORS
26	Wang 2003	JBC (ASBMB)							?	?	?	CONCERNS IGNORED BY EDITORS
27	Jin 2001	Journal of Neurochemistry (Wiley)							?	?	?	CONCERNS IGNORED BY EDITORS
28	Jones 2000	J Neurosci (SfN)							?	?	?	CONCERNS IGNORED BY EDITORS
29	Wang 2000	JBC (ASBMB)							?	?	?	CONCERNS IGNORED BY EDITORS
30	Wang 2021	Alzheimer's & Dementia (Wiley / AA)							?	?	?	CONCERNS IGNORED BY EDITORS
31	Largent-Milnes 2008	Journal of Pain (Elsevier)							?	?	?	CONCERNS IGNORED BY EDITORS
32	Hahn 2009	PLoS ONE (PLoS)							?	?	?	CONCERNS IGNORED BY EDITORS

Collaborator Group Legend & Senior Collaborators

	Pain Therapeutics / Cassava Sciences (**Lindsay Burns**)
	Servier (**Bruno Vellas**)
	Wang Lab / CUNY (**Eitan Friedmann**)
	UPenn & Rush (**Chang-Gyu Hahn, Steven E Arnold, Zoe Arvanitakis, Rex Ahima, Konrad Talbot**)
	Hamilton College (**Siobhan Robinson**)

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Specific Recommendations For Journal Editors and Investigators

1. **Journal of Neuroscience should retract Wang, 2012 (Reducing amyloid-related Alzheimer's disease pathogenesis by a small molecule targeting filamin A), and its "Erratum".** For Wang 2012, as documented on Pubpeer, the "original, uncropped" blot provided for Figure 9 was not an uncropped blot, is missing controls and markers, and

shows clear signs of fabrication. Duplicated bands in Figure 11A were not addressed, nor was the duplicated micrograph that was shifted and had its color adjusted in Figure 8 explained.

2. **Journal of Neuroscience** should immediately issue expressions of concern on Bakshi 2009 ("Reducing amyloid-related Alzheimer's disease pathogenesis by a small molecule targeting filamin A") and Wang 2011 ("Repetitive transcranial magnetic stimulation enhances BDNF-TrkB signaling in both brain and lymphocyte"), and fully investigate the concerns that have been raised on PubPeer and elsewhere. It is unclear why these have so far been ignored. The material provided in support of Wang 2009 should be properly assessed by experts and made available for public scrutiny, and if evidence of fabrication is found, the paper should be retracted.

3. **The Society for Neuroscience should open an independent investigation into the process by which the Journal of Neuroscience editor initially evaluated concerns and the data provided by the authors.**
    a. How long did the "careful" review of Wang 2009 take, and who conducted that review?
    b. How long did the review of Wang, 2012 take, and who conducted that review? Other than the authors and the editors, who else was involved in discussions and review of these papers and data provided?
    c. What was the basis for and rationale behind issuing the statement that "No evidence of data manipulation was found for Western blot data."? Why did the Journal of Neuroscience take the unusual step of providing this statement?

4. **Neurobiology of Aging should immediately retract Wang 2017 ("PTI-125 binds and reverses an altered conformation of filamin A to reduce Alzheimer's disease pathogenesis").** The editor has already conceded scores of "errors" in the radiochemistry experiments supposedly performed, and in western blots. The paper contains two figures with obviously duplicated photomicrographs or serial sections claimed to represent completely different experiments, which have now been pointed out and are easily verifiable by eye. The paper cites and critically depends on multiple fraudulent papers that have now already been retracted, which claimed to discover and establish the target of the small molecule studied (eg. Wang 2008, Wang 2016). The conclusions of the paper are thus completely unsupportable, regardless of intent, and the additional context provided here further demonstrates that the misconduct in this paper was deliberate. The editor should make all of the materials that have been provided in support of the paper available for public scrutiny, as it is likely that they contain further evidence of fabrication.

5. **Neuroscience (Elsevier) should immediately retract the misleading errata provided by Wang, and retract both Wang 2005 and Robinson 2021.** Both of these papers, and their "original uncropped blots" exhibit clear evidence of image manipulation of the same sort present in Wang's papers that have already been retracted by other publishers. The Editor of Neuroscience was informed on December 20, 2021, the same day that the "Editorial Note" was published, about concerns about the "original" images of blots, which were used to justify not retracting the Wang 2005 paper (as had been originally intended.) **The editor has not responded to repeated inquiries about these issues.** In the meantime, Neuroscience published its "corrigendum" for Robinson 2021, which exhibits similar evidence of fabrication.

    As noted by Dr. Bik and others on PubPeer, among other issues:

    In Wang 2005:

    a. Background noise in the "original" blots is statistically and visibly identical across supposedly different experiments. This is readily apparent by eye and has been quantified by multiple independent analyses on pubpeer.
    b. Bands from Wang 2005 have been copied into **three** different subsequent papers and claimed to represent different experiments.
    c. There are discrepancies between the published figures and the "original uncropped blots" from which they are supposedly derived.

    In Robinson 2021:

    d. The experiment shown in Figure 7A and 7B of Robinson 2021 is impossible, because it uses as a loading control a protein (beta-Actin) that would not be present in the immunoprecipitation (anti-Arc) described. The "original" blots also do not show any of the appropriate controls that expected to have been run for this kind of experiment. Furthermore, the experiment was conducted on 24 samples, yet only one "original" blot is shown.
    e. The molecular weights of proteins on the "original" Robinson blots are incorrect and inconsistent with the published figures. Bands are copy-and-pasted from the same "original" "uncropped" blots into figures that are claimed to represent completely different experiments.

6. **The Journal for Prevention of Alzheimer's Disease should immediately issue an Expression of Concern on Wang, 2021 "PTI-125 Reduces Biomarkers of Alzheimer's Disease in Patients" and properly investigate the paper.** We note that Dr. Bruno Vellas, who serves on the JPAD editorial board and on the organizing committee for the parent Clinical Trials on Alzheimer's Disease (CTAD) conference at which Cassava Sciences has presented, is a co-author with Dr. Wang and Servier on an already retracted paper, and should be recused from any investigation.

7. **Physiology & Behavior should retract the misleading Erratum for Meade 2021, issue an Expression of Concern, and properly investigate the paper.** This paper exhibits the same issues including spliced bands and unusual uniform noise background as many other Wang papers.

8. **Hamilton College should initiate an investigation into the original Robinson & Wang papers, into the misleading errata, and into the College's handling of reports of misconduct and warnings about fabrications in responses to journals.** Dr. Robinson and the Research Integrity Officer and Dean at Hamilton College were notified of concerns with the two Robinson / Wang papers in November of 2021, and specifically warned in January 2022 that Dr. Wang was fabricating data in his responses to journals. The RIO explicitly declined to investigate these concerns or take them seriously, and stated that their inquiry "will be limited to monitoring the situation with regard to Professor Robinson's interaction with the two journals to confirm that any concerns the journals have about the research are properly addressed." The concerns were improperly addressed.

9. **Penn Medicine, MGH, Harvard Medical School and Rush University should open their own independent investigations into all seven papers co-authored by Chang-Gyu Hahn, Steven E Arnold, and Zoe Arvanitakis with Dr. Wang with concerns flagged on PubPeer, as well as potential conflicts of interest.** We note that Dr. Arnold was a member of the Cassava Sciences Scientific Advisory Board until it was recently disbanded, as well as a co-investigator on NIH grants to Cassava Sciences. We also note that Dr. Rex Ahima, the former editor of the Journal of Clinical Investigation, is a co-author of multiple published and submitted papers with Dr. Wang and Dr. Arnold. The Journal of Clinical Investigation explicitly declined to investigate concerns about Talbot, 2012, reported to them in the Fall of 2021.

10. **CUNY, the City University of New York, should promptly complete its ongoing investigation and commit to transparently releasing a report.** In the meantime, CUNY must prevent misleading errata from being published, and ensure that evidence is neither destroyed nor fabricated.

As per COPE guidelines on responding to whistleblowers we look forward to a response 'ideally within 24 hours, saying that you are going to investigate" (https://publicationethics.org/files/respond-whistleblowers-concerns-on-socialmedia-cope-flowchart.pdf

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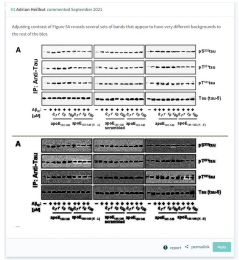
appendix A.pdf
5718K View as HTML Download

Wang 2017, Alz Research & Therapy → RETRACTED

RETRACTED: Increased Aβ42-α7-like nicotinic acetylcholine receptor complex level in lymphocytes is associated with apolipoprotein E4-driven Alzheimer's disease pathogenesis

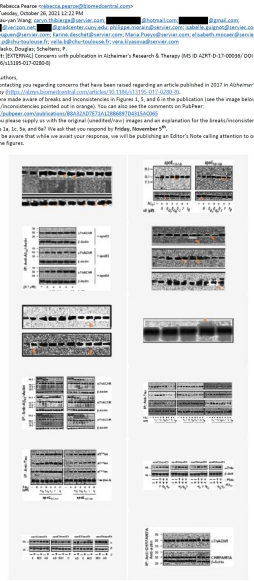
1

Concerns Raised on Pubpeer & elsewhere



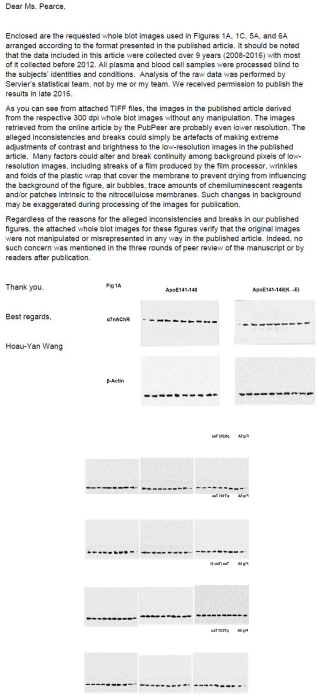
2

Editors confirm concerns; request data



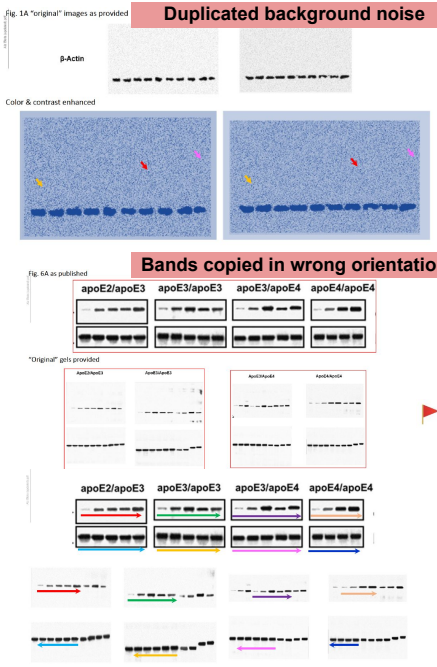
3

"Original Blots" provided by Wang



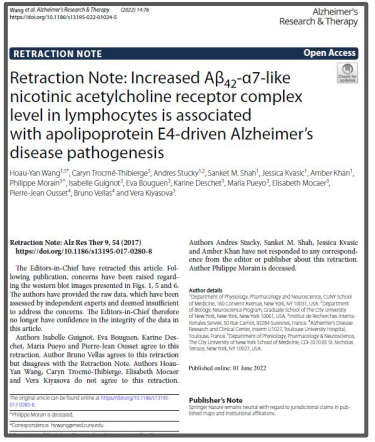
4

Fraud Detected by Editors in "Original" Data



5

Retraction



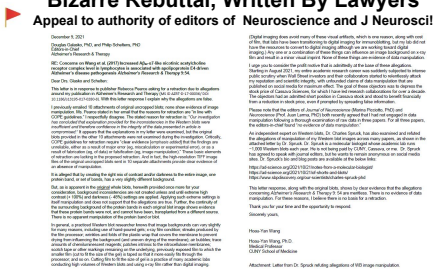
RETRACTION NOTE — Open Access

Retraction Note: Increased $Aβ_{42}$-α7-like nicotinic acetylcholine receptor complex level in lymphocytes is associated with apolipoprotein E4-driven Alzheimer's disease pathogenesis

Retraction Note: Alz Res Ther 9, 54 (2017) https://doi.org/10.1186/s13195-017-0280-8

Bizarre Rebuttal, Written By Lawyers

Appeal to authority of editors of Neuroscience and J Neurosci!



Wang S 2021, Molecular Neurodegen → RETRACTED

Retraction Note: Calcium-dependent cytosolic phospholipase A2 activation is implicated in neuroinflammation and oxidative stress associated with ApoE4

1 Concerns Raised on Pubpeer → **2** Editors confirm concerns; request data → **3** "Original Blots" provided by Wang → **4** Fraud Detected by Editors in "Original Data" → **5** Retraction (subsequently republished *without* Wang's contributions)

"So yes, Dr. HY Wang did provide a few images that he said were the original blot images; and no, we don't think so."

Thank you for reach out to us. This message is to address the inquiry you sent to our Editor-in-Chief, Dr. Bu.

For you question, "*Can you clarify whether or not the journal received any raw data from the authors*", a short answer is yes and no. The data of the integrity concern is Fig 9 of the paper, which was added in revision to address reviewers' concerns, and these data were not produced in Dr. Yassine's lab, but a "newly added" author for that round of submission, Dr. HY Wang from the City College of New York. When the potential integrity issue was called to our attention, Dr. Yassine requested the original blot images from Dr. HY Wang for MN's editorial team and Springer Nature's Research Integrity Group to examine. Unfortunately, these "original" blot images from Dr. HY Wang also had visible signs very much looking like image manipulation, and Dr. Wang said he couldn't find other images from the repeated experiments. So, yes, Dr. HY Wang did provide a few images that he said were the original blot images; and no, we don't think so.

By the way, Dr. Yassine also provided original blot images in Fig 1-8 that were produced in his lab; and those have passed our scrutinization.

After reviewing the "original" blot images provided by Dr. HY Wang, all the authors, editors, and our publisher agreed retraction is the right call in this case.

Hope this answers your question.

https://twitter.com/ClicksAndHisses/status/1484227063259168769?s=20&t=xHQJgEVZz4DKgH82Rb0ZIA

The PLoS Five → **RETRACTED**

1

[Concerns Raised in CP and Pubpeer]

2

Editors confirm concerns; request data

3

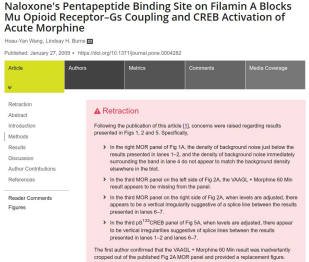
“Original Blots” provided by Wang

4

Fraud Detected by Editors in “Original Data”

5

Editorial Retractions


Naloxone's Pentapeptide Binding Site on Filamin A Blocks Mu Opioid Receptor–Gs Coupling and CREB Activation of Acute Morphine

Hoau-Yan Wang, Lindsey H. Burns

Published: January 27, 2009 • https://doi.org/10.1371/journal.pone.0004282

Article | Authors | Metrics | Comments | Media Coverage

Retraction

Following the publication of this article [1], concerns were raised regarding results presented in Figs 1, 2 and 5. Specifically,

- In the right MOR panel of Fig 1A, the density of background noise just below the results presented in lanes 1–2, and the density of background noise immediately surrounding the band in lane 4 do not appear to match the background density elsewhere in the blot.
- In the third MOR panel on the left side of Fig 2A, the VAAGL + Morphine 60 Min result appears to be missing from the panel.
- In the third MOR panel on the right side of Fig 2A, when levels are adjusted, there appears to be a vertical irregularity suggestive of a splice line between the results presented in lanes 6–7.
- In the third pα$^{(1)}$CREB panel of Fig 5A, when levels are adjusted, there appear to be vertical irregularities suggestive of splice lines between the results presented in lanes 1–2 and lanes 6–7.

The first author confirmed that the VAAGL + Morphine 60 Min result was inadvertently cropped out of the published Fig 2A MOR panel and provided a replacement figure. However, the first author disagreed with the concerns raised with the Fig 1A and Fig 2A MOR panels and the Fig 5A pα$^{(1)}$CREB panel, stating that each panel was obtained from a single blot and the observed irregularities were likely due to image compression artifacts.

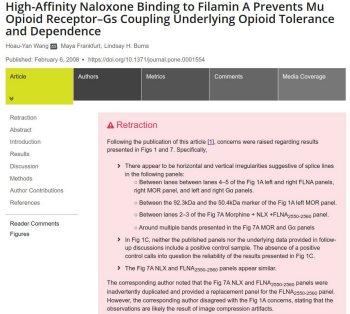
The first author provided image data to support the contested western blot results in this [1] and other PLOS ONE articles [2–5]. Per PLOS' assessment of the data files, the pixel patterns in background areas of blot images provided for multiple panels in [1–5] appear more similar than would be expected for data obtained in independent experiments. The first author stated that the repetitive features in the background noise of the underlying data are likely the result of scanner artifacts.

During PLOS' assessment of the underlying data, it was noted that neither the published panels nor the image data for the Fig 2A middle left MOR panel included a positive control. The absence of a positive control to confirm a successful western blot calls into question the reliability of results presented in this panels. In addition, the editorial assessment of the image data provided for the Fig 5A middle pα$^{(1)}$CREB panel did not match the panel presented in the published figure.

The data and comments provided to PLOS did not resolve the concerns about the integrity and reliability of the reported data. In light of these issues, the *PLOS ONE* Editors retract this article.

The authors did not agree with the retraction. HYW stands by the article's findings.

30 Mar 2022: The PLOS ONE Editors (2022) Retraction: Naloxone's Pentapeptide Binding Site on Filamin A Blocks Mu Opioid Receptor–Gs Coupling and CREB Activation of Acute Morphine. PLOS ONE 17(3): e0266629. https://doi.org/10.1371/journal.pone.0266629 | View retraction


High-Affinity Naloxone Binding to Filamin A Prevents Mu Opioid Receptor–Gs Coupling Underlying Opioid Tolerance and Dependence

Hoau-Yan Wang, Maya Frankfurt, Lindsey H. Burns

Published: February 6, 2008 • https://doi.org/10.1371/journal.pone.0001554

Article | Authors | Metrics | Comments | Media Coverage

Retraction

Following the publication of this article [1], concerns were raised regarding results presented in Figs 1 and 7. Specifically,

- There appear to be horizontal and vertical irregularities suggestive of splice lines in the following panels:
  - Between lanes between lanes 4–5 of the Fig 1A left and right FLNA panels, right MOR panel, and left and right Go panels.
  - Between the 92.3kDa and the 50.4kDa marker of the Fig 1A left MOR panel.
  - Between lanes 2–3 of the Fig 7A Morphine + NLX +FLNA$_{2560-2561}$ panel.
  - Around multiple bands presented in the Fig 7A MOR and Go panels
- In Fig 1C, neither the published panels nor the underlying data provided in follow-up discussions include a positive control sample. The absence of a positive control calls into question the reliability of the results presented in Fig 1C.
- The Fig 7A NLX and FLNA$_{2560-2580}$ panels appear similar.

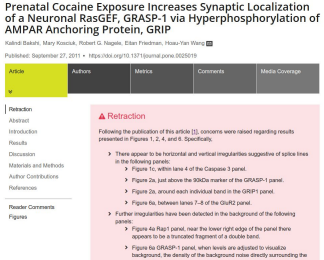
The corresponding author noted that the Fig 7A NLX and FLNA$_{2560-2580}$ panels were inadvertently duplicated and provided a replacement panel for the FLNA$_{2560-2580}$ panel. However, the corresponding author disagreed with the Fig 1A concerns, stating that the observations are likely the result of image compression artifacts.

The corresponding author provided image data to support the contested western blot results in this [1] and other PLOS ONE articles [2–5]. Per PLOS' assessment of the data files, the pixel patterns in background areas of blot images provided for multiple panels in [1–5] appear more similar than would be expected for data obtained in independent experiments. Furthermore, the supporting data files did not contain positive controls as needed to verify the reliability of the results. In response to these concerns, the corresponding author stated that the repetitive features in the background noise of the image data are likely the result of scanner artifacts. The explanation given for the background image similarities does not resolve the journal's concerns in light of PLOS' assessment of the data files.

The data and comments provided did not resolve the concerns about the integrity and reliability of data presented in this article. In light of these issues, the *PLOS ONE* Editors retract this article.

HYW and LB did not agree with the retraction. MF either did not respond directly or could not be reached. HYW stands by the article's findings.

30 Mar 2022: The PLOS ONE Editors (2022) Retraction: High-Affinity Naloxone Binding to Filamin A Prevents Mu Opioid Receptor–Gs Coupling Underlying Opioid Tolerance and Dependence. PLOS ONE 17(3): e0266627. https://doi.org/10.1371/journal.pone.0266627 | View retraction


Prenatal Cocaine Exposure Increases Synaptic Localization of a Neuronal RasGEF, GRASP-1 via Hyperphosphorylation of AMPAR Anchoring Protein, GRIP

Kalindi Bakshi, Mary Kosciuk, Robert G. Nagele, Eitan Friedman, Hoau-Yan Wang

Published: September 27, 2011 • https://doi.org/10.1371/journal.pone.0025019

Article | Authors | Metrics | Comments | Media Coverage

Retraction

Following the publication of this article [1], concerns were raised regarding results presented in Figures 1, 2, 4, and 6. Specifically,

- There appear to be horizontal and vertical irregularities suggestive of splice lines in the following panels:
  - Figure 1c, within lane 4 of the Caspase 3 panel.
  - Figure 2a, just above the 93kDa marker of the GRASP-1 panel.
  - Figure 2a, around each individual band in the GRIP1 panel.
  - Figure 6a, between lanes 7–8 of the GluR2 panel.
- Further irregularities have been detected in the background of the following panels:
  - Figure 4a Rap1 panel, near the lower right edge of the panel there appears to be a truncated fragment of a double band.
  - Figure 6a GRASP-1 panel, when levels are adjusted to visualize background, the density of the background noise directly surrounding the bands in lanes 5 and 6 does not appear to match the background noise density elsewhere in the blot.
  - Figure 6a GRIP1 panel, when levels are adjusted to visualize background, there appear to be sharp horizontal and vertical discontinuities in lane 1.

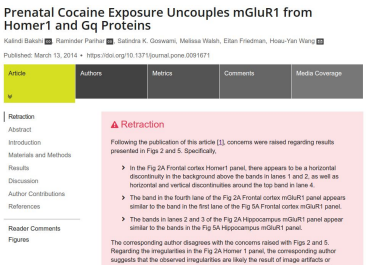
The corresponding author disagreed with the above concerns. They stated that each panel was obtained from a single blot and that the observations are likely the result of image compression artifacts or experimental artifacts such as gel or reagent remnants, or patches intrinsic to the nitrocellulose membranes.

The corresponding author provided image data to support their published western blot results in this [1] and other *PLOS ONE* articles [2–5]. Per PLOS' assessment of the data files, the pixel patterns in background areas of blot images provided for multiple panels in [1–5] appear more similar than would be expected for data obtained in independent experiments. The corresponding author stated that the repetitive features in the background noise of the underlying data are likely the result of scanner artifacts.

The data and comments provided to PLOS did not resolve the concerns about the integrity and reliability of the reported data. In light of these issues, the *PLOS ONE* Editors retract this article.

RGN and HYW did not agree with the retraction. KB, MK, and EF either did not respond directly or could not be reached. HYW stands by the article's findings.

30 Mar 2022: The PLOS ONE Editors (2022) Retraction: Prenatal Cocaine Exposure Increases Synaptic Localization of a Neuronal RasGEF, GRASP-1 via Hyperphosphorylation of AMPAR Anchoring Protein, GRIP. PLOS ONE 17(3): e0266630. https://doi.org/10.1371/journal.pone.0266630 | View retraction


Prenatal Cocaine Exposure Uncouples mGluR1 from Homer1 and Gq Proteins

Kalindi Bakshi, Raminder Parihar, Satindra K. Goswami, Melissa Walsh, Eitan Friedman, Hoau-Yan Wang

Published: March 13, 2014 • https://doi.org/10.1371/journal.pone.0091671

Article | Authors | Metrics | Comments | Media Coverage

Retraction

Following the publication of this article [1], concerns were raised regarding results presented in Figs 2 and 5. Specifically,

- In the Fig 2A Frontal cortex Homer1 panel, there appears to be a horizontal discontinuity in the background above the bands in lanes 1 and 2, as well as horizontal and vertical discontinuities around the top band in lane 4.
- The band in the fourth lane of the Fig 2A Frontal cortex mGluR1 panel appears similar to the band in the first lane of the Fig 5A Frontal cortex mGluR1 panel.
- The bands in lanes 2 and 3 of the Fig 2A Hippocampus mGluR1 panel appear similar to the bands in the Fig 5A Hippocampus mGluR1 panel.

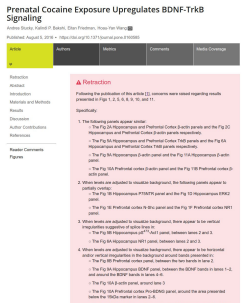
The corresponding author disagrees with the concerns raised with Figs 2 and 5. Regarding the irregularities in the Fig 2A Homer 1 panel, the corresponding author suggests that the observed irregularities are likely the result of image artifacts or experimental artifacts such as reagent remnants or patches intrinsic to the membrane. Furthermore, the corresponding author stated that the mGluR1 panels presented in Figs 2A and 5A were obtained from separate blots.

The corresponding author provided image data to support their published result in this [1] and other PLOS ONE articles [2–5]. Per PLOS' assessment of the data files, the pixel patterns in background areas of blot images provided for multiple panels in [1–5] appear more similar than would be expected for data obtained in independent experiments. The corresponding author stated that the repetitive features in the background noise of the underlying data are likely the result of scanner artifacts.

The data and comments provided to PLOS did not resolve the concerns about the integrity and reliability of the reported data. In light of these issues, the *PLOS ONE* Editors retract this article.

HYW did not agree with the retraction and stands by the article's findings. KB, RP, SKG, MW, and EF either did not respond directly or could not be reached.

30 Mar 2022: The PLOS ONE Editors (2022) Retraction: Prenatal Cocaine Exposure Uncouples mGluR1 from Homer1 and Gq Proteins. PLOS ONE 17(3): e0266628. https://doi.org/10.1371/journal.pone.0266628 | View retraction


Prenatal Cocaine Exposure Upregulates BDNF-TrkB Signaling

Retraction

Following the publication of this article [1], concerns were raised regarding results presented in Figs 1, 2, 3, 5, 6, 7, 10, and 11.

Specifically:

1. The following panels appear similar:
   - The Fig 2A Hippocampus and Prefrontal Cortex β-actin panels and the Fig 2C Hippocampus and Prefrontal Cortex β-actin panels respectively.
   - The Fig 5A Hippocampus and Prefrontal Cortex TrkB panels and the Fig 6A Hippocampus and Prefrontal Cortex TrkB panels respectively.
   - The Fig 6A Hippocampus β-actin panel and the Fig 11A Hippocampus β-actin panel.
   - The Fig 10A Prefrontal cortex β-actin panel and the Fig 10B Prefrontal cortex β-actin panel.
2. Where levels are adjusted to visualize background, the following panels appear to partially overlap:
   - The Fig 3B Hippocampus PTPN7PI panel and the Fig 10I Hippocampus ERK2 panel.
   - The Fig 3E Prefrontal cortex fk-this panel and the Fig 3F Prefrontal cortex NR1 panel.
3. Where levels are adjusted to visualize background, there appear to be vertical irregularities suggestive of splice lines in:
   - The Fig 6B Hippocampus pGSK$^{3\beta}$-Ser21 panel, between lanes 2 and 3.
   - The Fig 6A Hippocampus NR1 panel, between lanes 2 and 3.
4. Where levels are adjusted to visualize background, there appear to be horizontal and/or vertical irregularities in the background around bands presented in:
   - The Fig 6B Prefrontal cortex panel, between the two bands in lane 2.
   - The Fig 6A Hippocampus BDNF panel, between the BDNF bands in lanes 1–2, and around the BDNF bands in lanes 2–6.
   - The Fig 10A β-actin panel, present lane 3.
   - The Fig 10A Prefrontal cortex Pro-BDNG panel, around the area presented below the 150kDa marker in lanes 2–4.
   - The Fig 10B Prefrontal cortex tPA panel, around the bands presented in lanes 3–4.

Regarding point 1, the corresponding author confirmed the duplications and explained that results in the indicated pairs of figure panels (Fig. 2A and 2C, Fig 5A and 11A, Figs. 5A and 11B, and Figs 5A and 6A) originated from the same blots, which were co-probed with different antibodies.

The corresponding author disagreed with point 2 and stated that the results presented in these panels were obtained from separate blots.

Regarding points 3 and 4, the corresponding author indicated that the Fig 6B Hippocampus pGSK3-Ac21 panel was spliced during figure preparation. The corresponding author disagreed with the remaining stated duplications in Figs 6A, 6A and 10A suggesting that the observations are likely the result of image artefacts or experimental artefacts such as gel or reagent remnants or protein degradation products.

The corresponding author provided image data to support their western blot results in this [1] and other PLOS ONE articles [2–5]. Per PLOS' assessment of the data files, the pixel patterns in background areas of blot images provided for multiple panels in [1–5] appear more similar than would be expected for data obtained in independent experiments. The corresponding author stated that the repetitive features in the background noise of the underlying data are likely the result of scanner artifacts.

With the exception of point 1, the data and comments provided to PLOS did not resolve the concerns about the integrity and reliability of the reported data. Therefore, the *PLOS ONE* Editors retract this article.

HYW did not agree with the retraction and stands by the article's findings. KL, KPB, and EF either did not respond directly or could not be reached.

30 Mar 2022: The PLOS ONE Editors (2022) Retraction: Prenatal Cocaine Exposure Upregulates BDNF-TrkB Signaling. PLOS ONE 17(3): e0266625. https://doi.org/10.1371/journal.pone.0266625 | View retraction

“The corresponding author provided image data to support their published result in this [1] and other PLOS ONE articles [2–5]. Per PLOS’ assessment of the data files, the pixel patterns in background areas of blot images provided for multiple panels in [1–5] appear more similar than would be expected for data obtained in independent experiments. **The corresponding author stated that the repetitive features in the background noise of the underlying data are likely the result of scanner artifacts.**”

Duplicated background noise

Differences in background around certain bands

Missing controls

Data provided did not match figure in paper

Wang, 2005 Neuroscience (Elsevier)

NEEDS IMPROVEMENT

Ultra-low-dose naloxone suppresses opioid tolerance, dependence and associated changes in mu opioid receptor-G protein coupling and Gbetagamma signaling

1
Concerns Raised in CP and on Pubpeer

→

2
Editor confirms concerns; warns of impending retraction and requests data

→

3
"Original Blots" provided by Wang (after backup to 'melted' hard drive finally located)

→

4
Editorial note published with statement
"Neuroscience found no evidence of manipulation of the Western blot data or other figures of this publication" ??

→

5
Duplication and Fabrication identified on PubPeer and reported to editor the same day. Editor did not respond to repeated inquiries.

Bands photoshopped into THREE subsequent papers representing different experiments

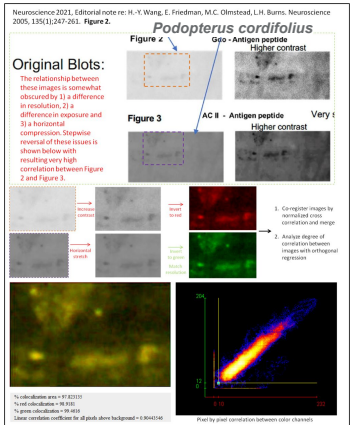
Bands duplicated within paper

Rectangular backgrounds around copy/pasted bands

Linear cuts in pasted bands

Meanwhile, on PubPeer

Duplicated background noise



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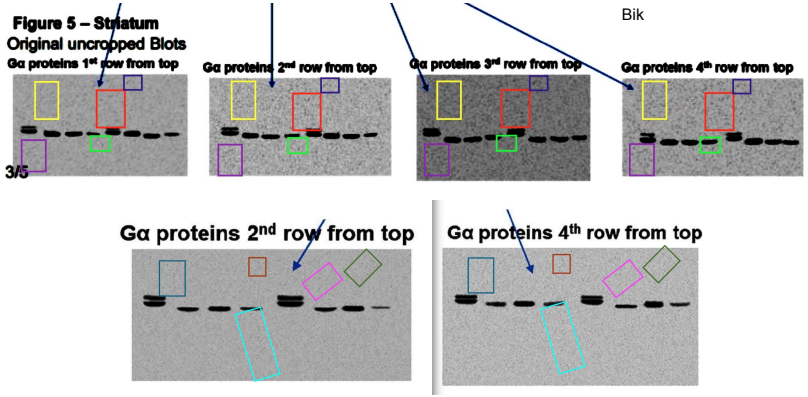
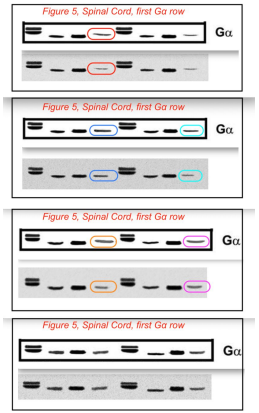


Inconsistencies with original data



Wang 2017, Neurobiology of Aging (Elsevier)

NEEDS IMPROVEMENT

1

Concerns Raised in CP and on Pubpeer

2

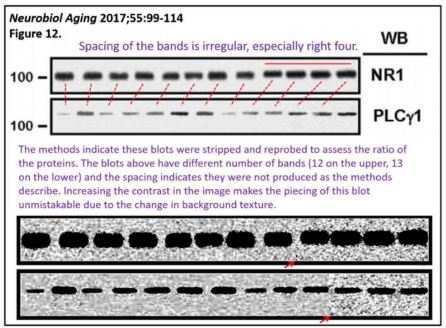
Additional concerns raised in CP supplements Impossible radiochemistry. Editor warned about fabrications.

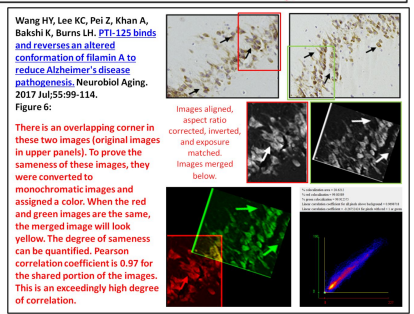
3

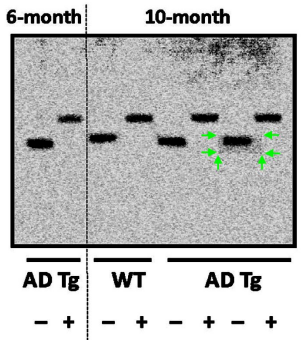
?

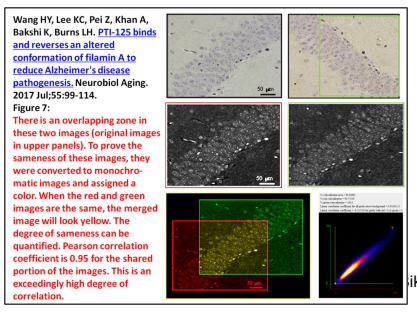
4

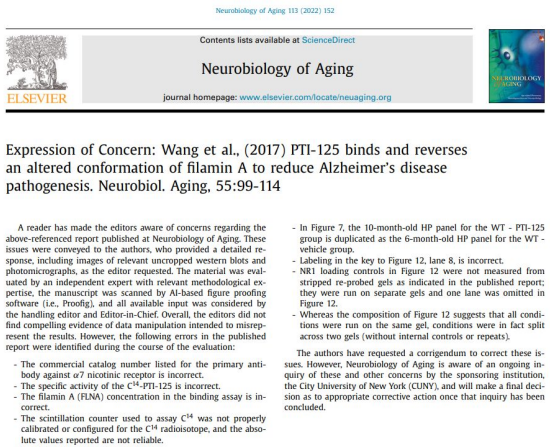
Editor issues
"Expression of Concern"
with statement that "the editors did not find compelling evidence of data manipulation intended to misrepresent results" despite almost everything in paper being an "error" ??
"original data" not shown.
Obvious microscopy image duplications denied or not addressed at all.










Neurobiology of Aging 113 (2022) 152

Contents lists available at ScienceDirect

Neurobiology of Aging

journal homepage: www.elsevier.com/locate/neuaging.org

Expression of Concern: Wang et al., (2017) PTI-125 binds and reverses an altered conformation of filamin A to reduce Alzheimer's disease pathogenesis. Neurobiol. Aging, 55:99-114

A reader has made the editors aware of concerns regarding the above-referenced report published at Neurobiology of Aging. These issues were conveyed to the authors, who provided a detailed response, including images of relevant uncropped western blots and photomicrographs, as the editor requested. The material was evaluated by an independent expert with relevant methodological expertise, the manuscript was scanned by AI-based figure proofing software (i.e., Proofig), and all available input was considered by the handling editor and Editor-in-Chief. Overall, the editors did not find compelling evidence of data manipulation intended to misrepresent the results. However, the following errors in the published report were identified during the course of the evaluation:

- The commercial catalog number listed for the primary antibody against α7 nicotinic receptor is incorrect.
- The specific activity of the C^{14}-PTI-125 is incorrect.
- The filamin A (FLNA) concentration in the binding assay is incorrect.
- The scintillation counter used to assay C^{14} was not properly calibrated or configured for the C^{14} radioisotope, and the absolute values reported are not reliable.
- In Figure 7, the 10-month-old HP panel for the WT - PTI-125 group is duplicated as the 6-month-old HP panel for the WT - vehicle group.
- Labeling in the key to Figure 12, lane 8, is incorrect.
- NR1 loading controls in Figure 12 were not measured from stripped re-probed gels as indicated in the published report; they were run on separate gels and one lane was omitted in Figure 12.
- Whereas the composition of Figure 12 suggests that all conditions were run on the same gel, conditions were in fact split across two gels (without internal controls or repeats).

The authors have requested a corrigendum to correct these issues. However, Neurobiology of Aging is aware of an ongoing inquiry of these and other concerns by the sponsoring institution, the City University of New York (CUNY), and will make a final decision as to appropriate corrective action once that inquiry has been concluded.

Robinson, 2021 Neuroscience (Elsevier)

NEEDS IMPROVEMENT

1

Concerns Raised on Pubpeer

2

Editors and Research integrity Officers ***warned*** about fabrication in other Wang "corrections"

3

?

4

"Corrigendum"

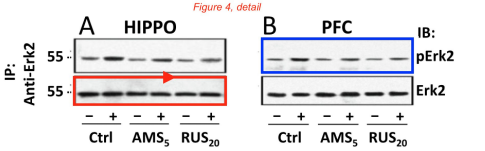
- **Duplicated background noise**
- **Differences in background around certain bands**
- **Missing controls; impossible experiments**
- **Data provided did not match figure in paper**

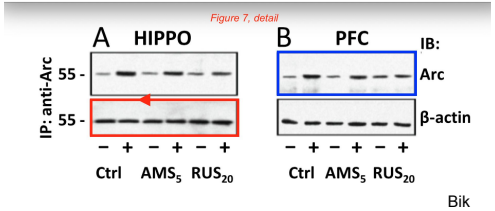
5

Fabrication of data in "corrigendum" documented on PubPeer and reported to editor.

Editor did not respond to inquiries. No EoC.

The "Flipped Hippo"

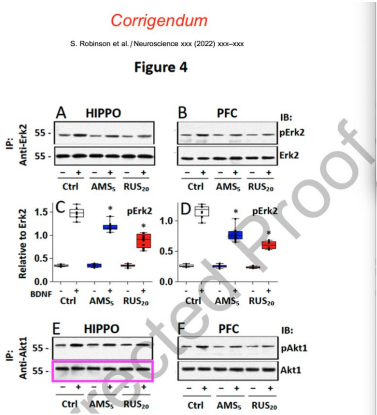


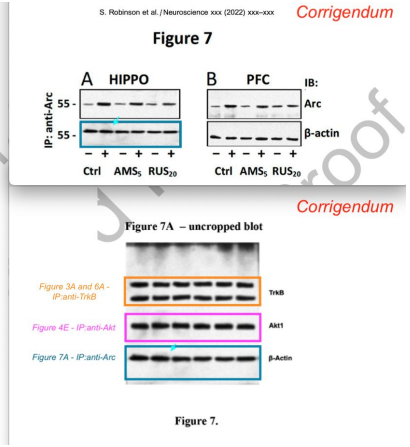


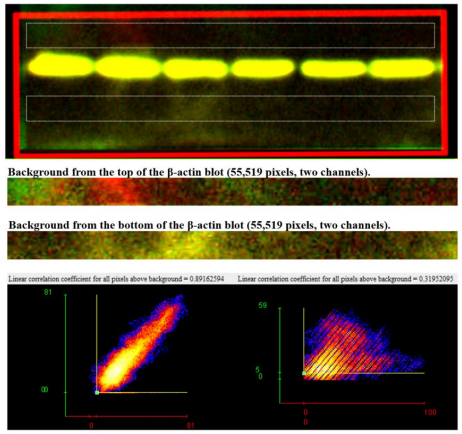
Bik

Bands duplicated within paper

Linear cuts in pasted bands







Wang 2012, Journal of Neuroscience

NEEDS IMPROVEMENT

Reducing Amyloid-Related Alzheimer's Disease Pathogenesis by a Small Molecule Targeting Filamin A

1
Concerns Raised in CP and on Pubpeer

2
?

- Bands duplicated within paper
- Rectangular backgrounds around copy/pasted bands
- Linear cuts in pasted bands
- Photomicrographs duplicated

3
Editor publishes erratum and provides (but does not publish) an unprecedented statement to Cassava Sciences that "No evidence of data manipulation was found for Western blot data." Almost immediately, evidence of manipulation in the "original, uncropped" errata figures noted on PubPeer

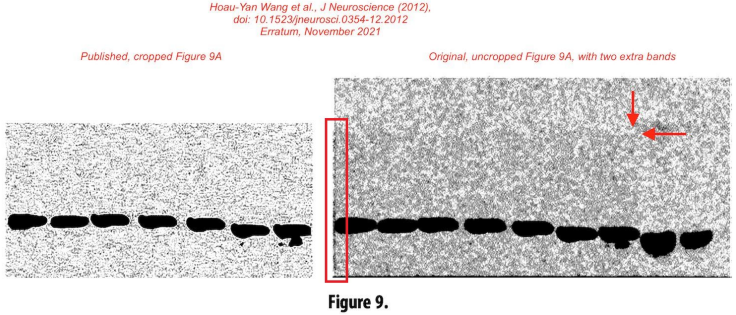


Figure 9.

4
Evidence of fabrication noted on PubPeer.

Editor does not publish publish responsive eLetters

Expression of Concern published Dec 17, 2021

No further action taken since

Fabricated erratum remains published.

Cassava Sciences issues press release with statement declaring "no evidence of data manipulation" attributed to JNeurosci Editors, 9am, November 4 2021

Wang 2009, Journal of Neuroscience

NEEDS IMPROVEMENT

Dissociating beta-amyloid from alpha 7 nicotinic acetylcholine receptor by a novel therapeutic agent, S 24795…

1
Concerns Raised in CP and on Pubpeer

2
?

3
Nov 3 2021, 3:37pm
Wang provides EIC with "original, uncropped" blot images

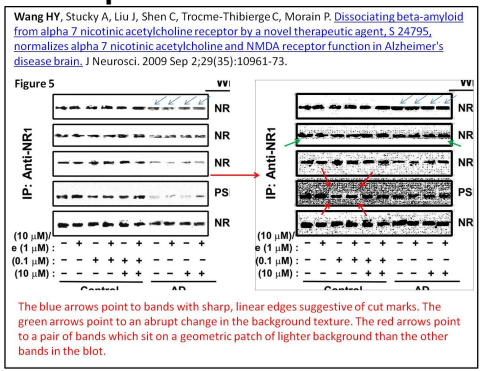
4
Editor-in-chief replies 94 minutes later, stating in email: "Thank you for forwarding the images of the uncropped Western blots for this article. I have reviewed them carefully and agree that there is no evidence of data manipulation."

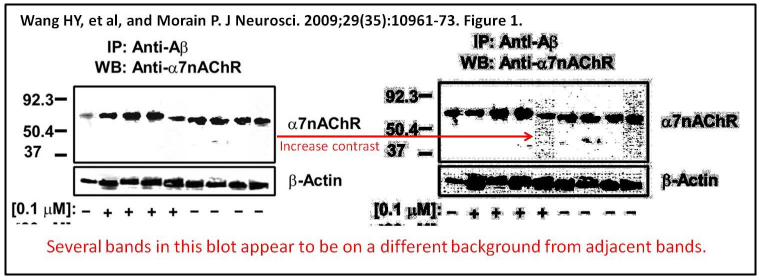
5
Expression of concern published December 17

No action since.

Submitted "original" data never published.

No EOC on Wang 2011
No EOC on Bakshi 2009





November 4th, 9am: Cassava halts stock; issues press release proclaiming JNeurosci statement about Wang 2012 paper