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Editorial

A bizarre case of scientific fraud

Last July Biochemical and Biophysical Research Communications (BBRC) received a paper entitled "Identification of meteorin and metrnl as two novel pro-differentiative adipokines: Possible roles in controlling adipogenesis and insulin sensitivity". This paper claimed to have originated from Greece's University of Thessaly, Karies, Trikala, School of Health Sciences, and listed five co-Authors (Alkistis Vezyraki, Stilianos Kapelouzouc, Nikolaos Fotiadisb, Moses S. Theofilogiannakosa and Evridiki Gerou). The paper described very interesting original findings on two novel pro-differentiative adipokines, and was happily accepted and published by BBRC as an Article in Press on July 13th.

A week later we received an e-mail from Dr. Bruce Spiegelman, a prominent Cell Biology professor at Harvard Medical School's Dana-Farber Cancer Institute in Boston, Massachusetts, questioning the paper's legitimacy. According to Dr Spiegelman the paper described results he had previously presented at a number of scientific Meetings and which he was getting ready to publish soon. He was surprised there was no trace of any of the five Authors on PubMed or other main scientific literature databases. In addition, none of the authors appeared to be listed as faculty on the University of Thessaly's website.

At this point, *BBRC* launched a thorough internal investigation during which the Rector of the University of Thessaly was contacted. The Rector confirmed by telephone that none of the five Authors of the paper was or had been associated with this University. It thus became highly likely that the paper had been fabricated, and on August 8th *BBRC* decided to temporarily withdraw it with an accompanying note stating that the paper was under investigation. The Authors were informed of this development through the email address they had provided, and were given a time period of several weeks to reply. They failed to do so, and during this time the Rector of the Greek University confirmed in writing that none of the listed Authors was associated with the University of Thessaly. *BBRC* then decided to permanently withdraw the paper with the following note:

"BBRC has been targeted by a scheme to defraud our editors, reviewers and readers with submission of a manuscript with falsified author and institutional information and therefore wholly unverifiable scientific claims. The manuscript has been withdrawn. We consider such abuse of the editorial and peer review system with the submission of fictional content unethical and it wastes the valuable time of all those who contributed to the evaluation of this manuscript. We are currently exploring which local authorities would have jurisdiction, and will with such authorities explore the question of whether this also constitutes a criminal case of internet fraud and we anticipate

turning over to them all of the information we have been able to attain from EES regarding the source of the fraudulent submission."

These are the facts. There are other details, such as the inconsistencies in the Greek surnames of the Authors suggesting that a non-Greek speaking person had fabricated them, the non-academic email address of the corresponding Author and the unusual location of the server from where the messages from the corresponding Author seem to originate, the fact that the paper was impeccably written by someone who obviously was an academic, and most puzzlingly, the necessary conclusion that the Authors of the fraudulent paper could not hope to derive any benefit from it. These and other details may give the matter the flavour of an exciting spy story, but are best left to the on-going investigations aimed at identifying the author(s) involved in the fraud. It is true, of course, that the episode in its incredible aspects seems unique: thus, to use scientific parlance, it is probably "irreproducible". And it is also true that this is not a common case of scientific misconduct like falsification, fabrication or plagiarism, similar to the many cases Journals now frequently experience. This episode goes beyond scientific misconduct, and may constitute a criminal act as well. Accordingly the Publisher has taken action to raise the matter with the appropriate criminal authorities.

Cases of scientific misconduct have been on the rise since the introduction of online submission systems, helped by technology and most likely also as the result of the enormous pressure that now weighs on those who practice science. At BBRC we take each case seriously and are constantly looking at ways to prevent scientific misconduct, in whatever form, and where prevention is not fully possible, to raise the bar. It is now, for instance, mandatory to submit the contact details of all co-authors of a manuscript so that all authors can be copied on correspondence pertaining to the submission and reviewing process. This will not eliminate all imaginable cases of fraud, but will prevent situations in which co-authors have not given consent to the submission of the paper. In October BBRC also integrated the plagiarism detection software (http://www.crossref.org/crosscheck/index.html) CrossCheck within the Elsevier Editorial System (EES). CrossCheck uses iThenticate originality detection software to identify text similarities which may indicate plagiarism by comparing manuscripts with both a web repository and the CrossCheck database. EES also facilitates the use of the ORCID digital identifier (http://orcid.org/). Upon submission of a manuscript, authors and co-authors are invited to link their ORCID to the submitted manuscript. The journal very much hopes that ORCID will become progressively more broadly used.

BBRC acknowledges the limitation of the above measures and that none of them could have prevented the bizarre and at the same time very serious case with the fake Author(s). But let us members of the scientific community use this unique episode to think about ways and means to prevent damages of more general

nature with the goal to improve the standards of scientific publishing.

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