



**BIOMEDICAL
CENTER**

JOURNAL CLUB

Chemical labeling and enrichment of nitrotyrosine-containing peptides

Jiří Moravec

20. 4. 2016 at 3 pm

Protein tyrosine nitration (PTN) is a post-translational modification of proteins associated with a number of inflammatory diseases. Since PTN is a low-abundance post-translational modification, it is necessary to enrich modified proteins and/or to detect them with high selectivity and sensitivity. Until now, this has been mostly accomplished with anti-nitrotyrosine antibodies in combination with two-dimensional gel electrophoresis and mass spectrometry.

We propose a chemical labeling approach designed to allow enrichment of tyrosine-nitrated peptides independent of the sequence context, which is a potential shortcoming of antibody-based approaches. As a proof of concept, this method was successfully applied to the enrichment of tyrosine-nitrated angiotensin II in a tryptic digest of bovine serum albumin (BSA). The approach presented here is well adapted to peptide analysis, for instance in shotgun proteomics.

N. Abello, B. Barroso, H. A. M. Kerstjens, D. S. Postma, R. Bischoff, Chemical labeling and enrichment of nitrotyrosine-containing peptides, *Talanta* 2010, 80, 1503-1512.

About JC: The goals of Journal Club are manifold. Primarily, it serves as a forum where every member of our Biomedical Center can present the latest results from his field and specialization in a way that is accessible to her/his colleagues. The first language of JC's is English. Additionally, it serves as a place to present results from own research and to train presentations. We would like to stimulate discussion across multiple scientific fields in order to reach wider and deeper insight of contemporary development of science. Researchers from outside of the center are welcomed to participate and/or to present their own topics. Please, do not hesitate to come or to contact us. Organizers: J. Kroc, L. Vistejnova and P. Klein.

Journal Club on G+: <https://plus.google.com/u/0/communities/104180668850948576055>

Biomedical Center

Faculty of Medicine in Pilsen | Charles university in Prague
alej Svobody 1655/76 | 323 00 Plzeň | www.biomedic-plzen.cz

