# Article information:

Serine ADP-ribosylation reversal by the hydrolase ARH3 - PubMed  
<https://pubmed.ncbi.nlm.nih.gov/28650317/>

# Article summary:

1. ADP-ribosylation is a post-translational modification of proteins that controls many cellular processes.

2. Histone Ser-ADPr is reversible in cells during response to DNA damage and ARH3/ADPRHL2 has been identified as the hydrolase responsible for this reversal.

3. Quantitative proteomics showed that Ser-ADPr is a major PTM in cells after DNA damage and this signalling is dependent on ARH3.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides an overview of the role of ADP-ribosylation (ADPr) as a post-translational modification (PTM) of proteins, and its involvement in various cellular processes such as DNA repair, transcription, chromatin regulation and mitosis. The authors then discuss their discovery of a new form of ADPr attached to serine residues in target proteins (Ser-ADPr), which is specifically made by PARP1/HPF1 and PARP2/HPF1 complexes. They go on to describe how they used quantitative proteomics to show that histone Ser-ADPr is reversible in cells during response to DNA damage, and identified ARH3/ADPRHL2 as the hydrolase responsible for this reversal. Finally, they demonstrate that Ser-ADPr is a major PTM in cells after DNA damage and that this signalling is dependent on ARH3.

The article appears to be well researched and reliable, with evidence provided for each claim made throughout the text. The authors have also provided detailed descriptions of their methods, which adds credibility to their findings. Furthermore, the article does not appear to contain any promotional content or partiality towards any particular viewpoint or opinion; instead it presents both sides equally by providing evidence for both claims made throughout the text. Additionally, possible risks are noted where appropriate, such as when discussing the potential implications of their findings for future research into ADP-ribosylation reversal mechanisms.

In conclusion, this article appears to be trustworthy and reliable overall; however there are some areas where further exploration could be beneficial such as exploring counterarguments or missing points of consideration more thoroughly.

# Topics for further research:

* ADP-ribosylation mechanism
* Post-translational modification of proteins
* PARP1/HPF1 and PARP2/HPF1 complexes
* Quantitative proteomics
* ARH3/ADPRHL2 hydrolase
* DNA damage signalling pathways

# Report location:

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