

Accepted Manuscript

Structural and biochemical characterization of bacterial YpgQ protein reveals a metal-dependent nucleotide pyrophosphohydrolase

Ye Ji Jeon, Sun Cheol Park, Wan Seok Song, Ok-Hee Kim, Byung-Chul Oh, Sung-il Yoon

PII: S1047-8477(16)30061-2
DOI: <http://dx.doi.org/10.1016/j.jsb.2016.04.002>
Reference: YJSBI 6895

To appear in: *Journal of Structural Biology*

Received Date: 23 November 2015
Revised Date: 22 March 2016
Accepted Date: 7 April 2016

Please cite this article as: Jeon, Y.J., Park, S.C., Song, W.S., Kim, O-H., Oh, B-C., Yoon, S-i., Structural and biochemical characterization of bacterial YpgQ protein reveals a metal-dependent nucleotide pyrophosphohydrolase, *Journal of Structural Biology* (2016), doi: <http://dx.doi.org/10.1016/j.jsb.2016.04.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Structural and biochemical characterization of bacterial YpgQ protein reveals
a metal-dependent nucleotide pyrophosphohydrolase

Ye Ji Jeon¹, Sun Cheol Park¹, Wan Seok Song¹, Ok-Hee Kim²,
Byung-Chul Oh², Sung-il Yoon^{1,3*}

¹Department of Systems Immunology, College of Biomedical Science, Kangwon National University, Chuncheon 200-701, Republic of Korea

²Lee Gil Ya Cancer and Diabetes Institute, Collage of medicine, Gachon University, Incheon 406-840, Republic of Korea

³Institute of Bioscience and Biotechnology, Kangwon National University, Chuncheon 200-701, Republic of Korea

*To whom correspondence should be addressed: Sung-il Yoon, Department of Systems Immunology, Kangwon National University, 1 Kangwondaehak-gil, Biomedical Science building A-204, Chuncheon 200-701, Republic of Korea. Tel: +82-33-250-8385, Fax: +82-33-250-8380, E-mail: sungil@kangwon.ac.kr

Running title: Structural and biochemical studies of YpgQ

Abbreviations: HD, histidine-aspartate; (d)NTP, (deoxy)ribonucleoside triphosphate; bsYpgQ, *Bacillus subtilis* YpgQ; dNTP, deoxyribonucleoside triphosphate; NTP, ribonucleoside triphosphate; dNMP, deoxyribonucleoside monophosphate; Pi, inorganic monophosphate; PPI, inorganic pyrophosphate; lmYpgQ, *Listeria monocytogenes* YpgQ; saYpgQ, *Staphylococcus aureus* YpgQ; ecYedJ, *Escherichia coli* YedJ; PDB, Protein Data Bank; SAD, single-wavelength anomalous dispersion; RMSD, root mean square deviation; liYpgQ, *Listeria innocua* YpgQ; SeMet, selenomethionine; SeMet-bsYpgQ, selenomethionine-incorporated *Bacillus subtilis* YpgQ; thin-layer chromatography, TLC.

Keywords: Crystal structure, HD domain, pyrophosphate, manganese, substrate specificity

Download English Version:

<https://daneshyari.com/en/article/5913727>

Download Persian Version:

<https://daneshyari.com/article/5913727>

[Daneshyari.com](https://daneshyari.com)