

## Revealing new phosphoarginine binding proteins using chemoproteomic methods

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Arginine phosphorylation, an underexplored post-translational modification, is crucial for many cellular functions, including protein degradation.<sup>1</sup> While protein arginine kinase<sup>2</sup> and pArg-specific phosphatase<sup>3</sup> have recently been reported, phosphoarginine (pArg)-binding proteins remain elusive. Finding new pArg-binding proteins will be important in understanding the functions of protein arginine phosphorylation. In this study, we developed chemoproteomic methods to capture and isolate pArg-binding proteins from proteomes. Our analysis identified several candidate proteins in *B. subtilis* and *M. smegmatis*, which are highly important in cellular stress responses. These proteins are potentially linking Arg phosphorylation and metabolism.

### References

- <sup>1</sup> Trentini, D. B. et al. *Nature* **2016**, 539, 48-53.
- <sup>2</sup> Fuhrmann, J. et al. *Science* **2009**, 324, 1323–1327.
- <sup>3</sup> Fuhrmann, J. et al. *Cell Chem. Biol.* **2016**, 23, 967-977.