

# PdpE requires a free amino terminus for expression

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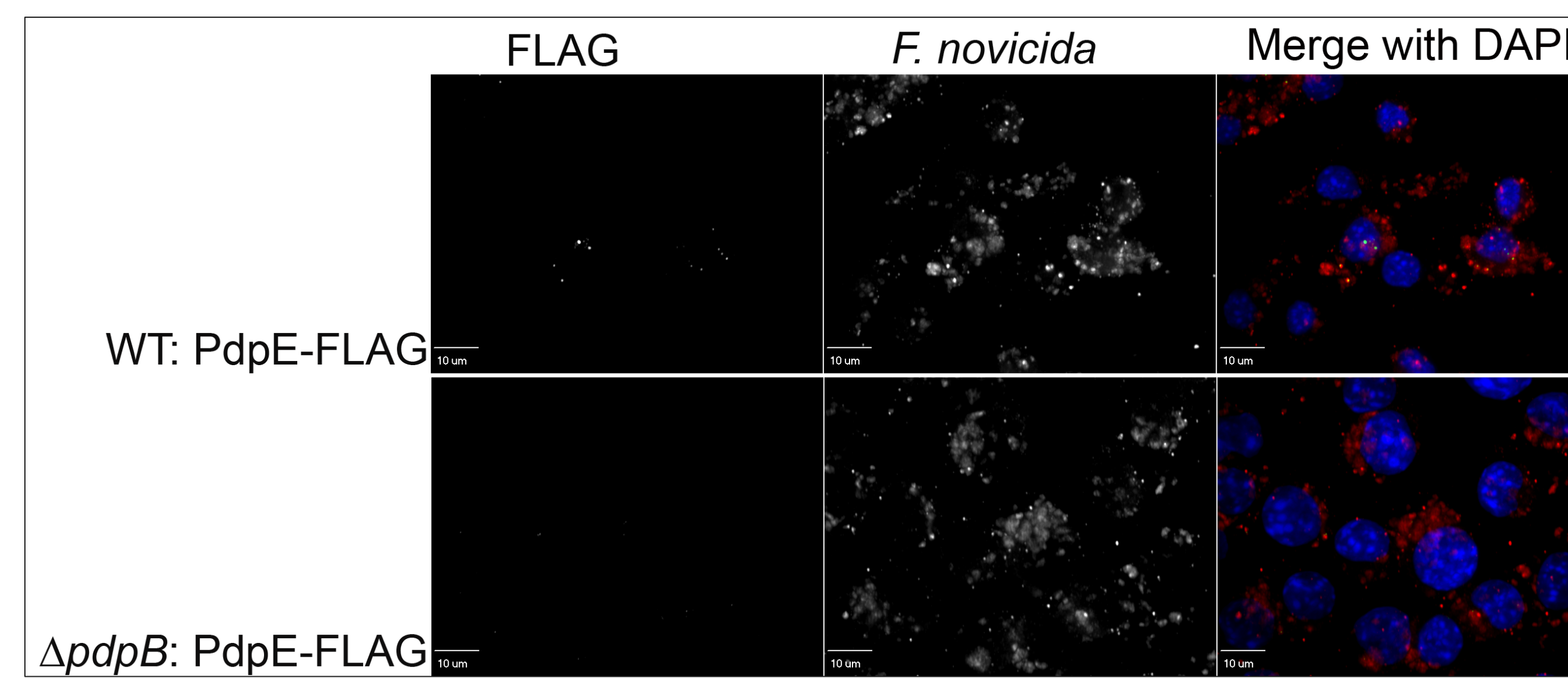
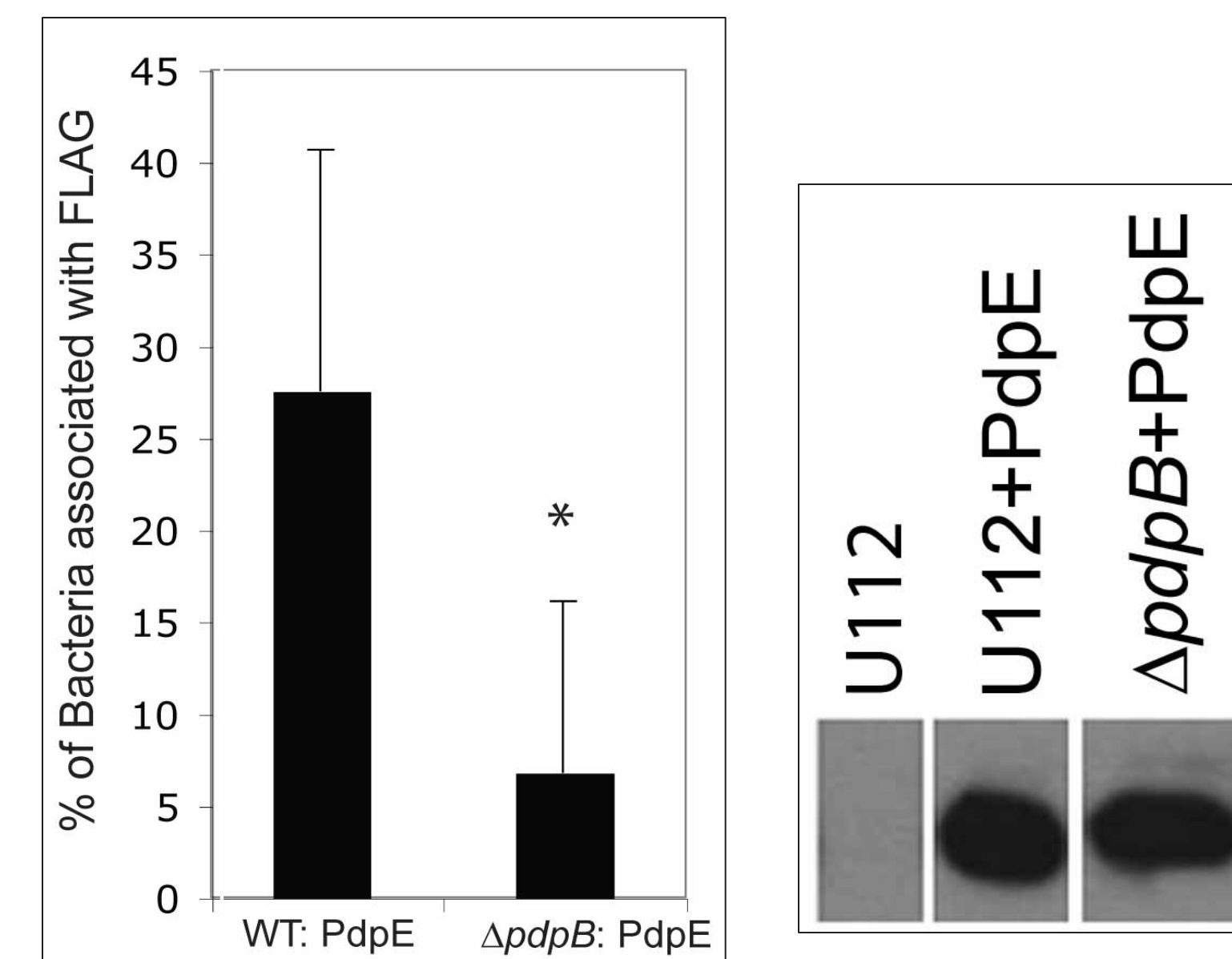
## Introduction

*Francisella tularensis* causes the disease tularemia. It does so by internalizing and replicating in cells, like macrophages. The molecular mechanisms of the organism's pathogenicity are not known. Virulence is linked to the *Francisella* Pathogenicity Island (FPI). Previous studies in our lab revealed PdpE as a secreted FPI protein, which lead us to question if secretion of PdpE requires a free amino-terminus.

To test this hypothesis, we transformed *F. novicida* with plasmids that express both N-term and C-term FLAG tag. We then used western blot and microscopy to examine the different tags. Our model uses the strain of *F. novicida* and murine macrophage-like cells, J774, because that strain produces a disease in mice the same way *F. tularensis* produces disease in humans.

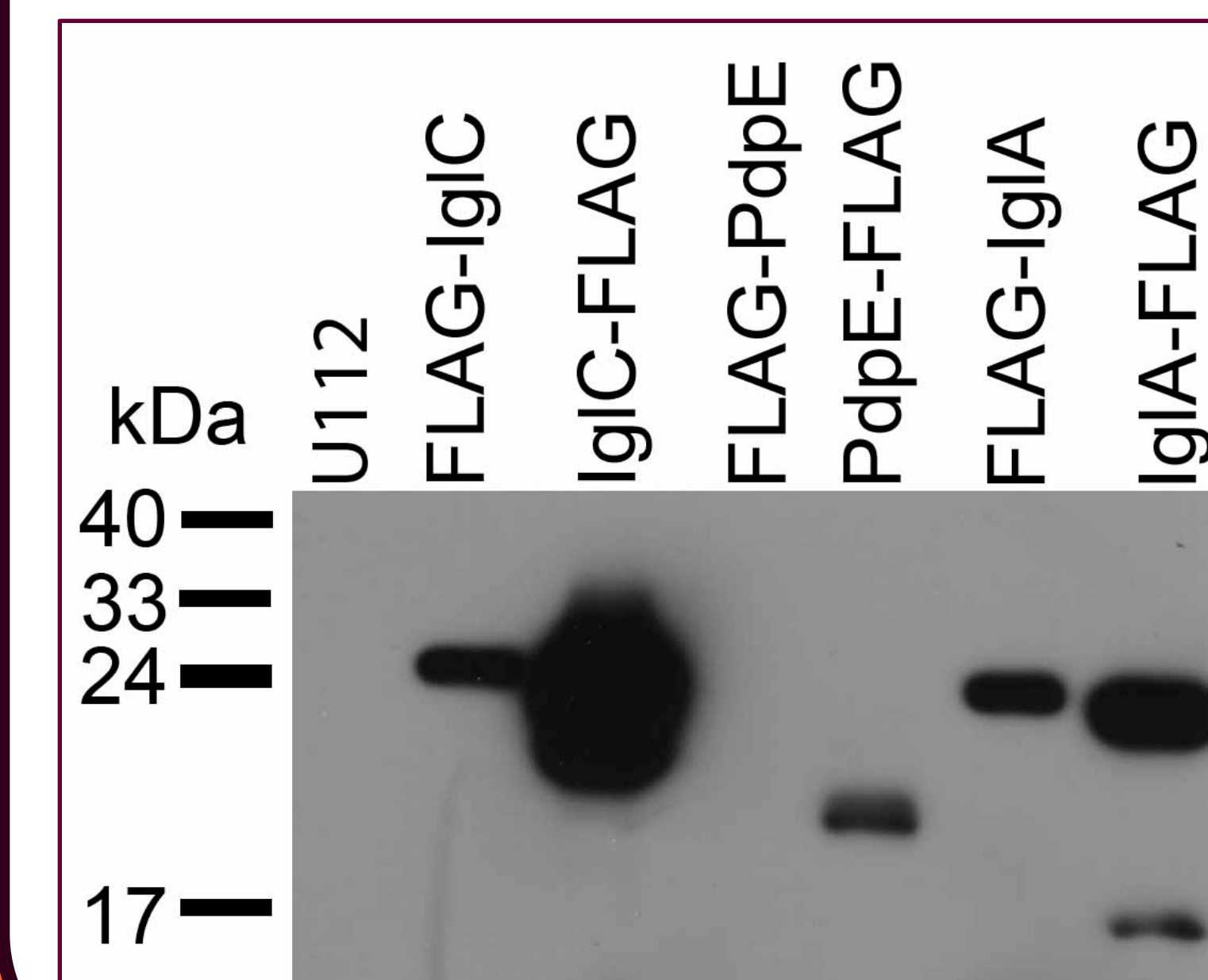
## Previous Studies

PdpE-FLAG is secreted, and its secretion is dependant on a Type 6 Secretion-like System.

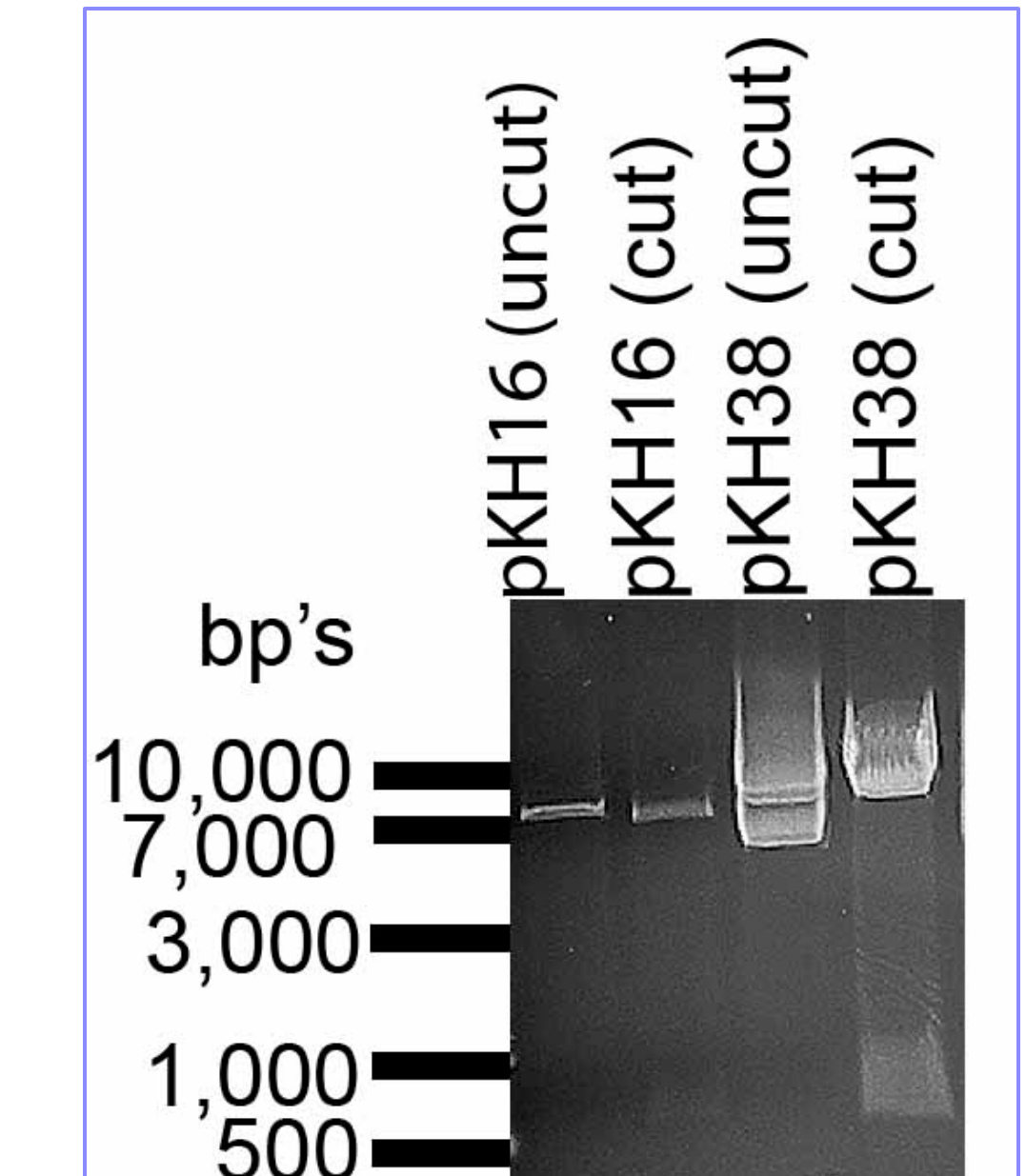


## My Results cont.

### Western Blot



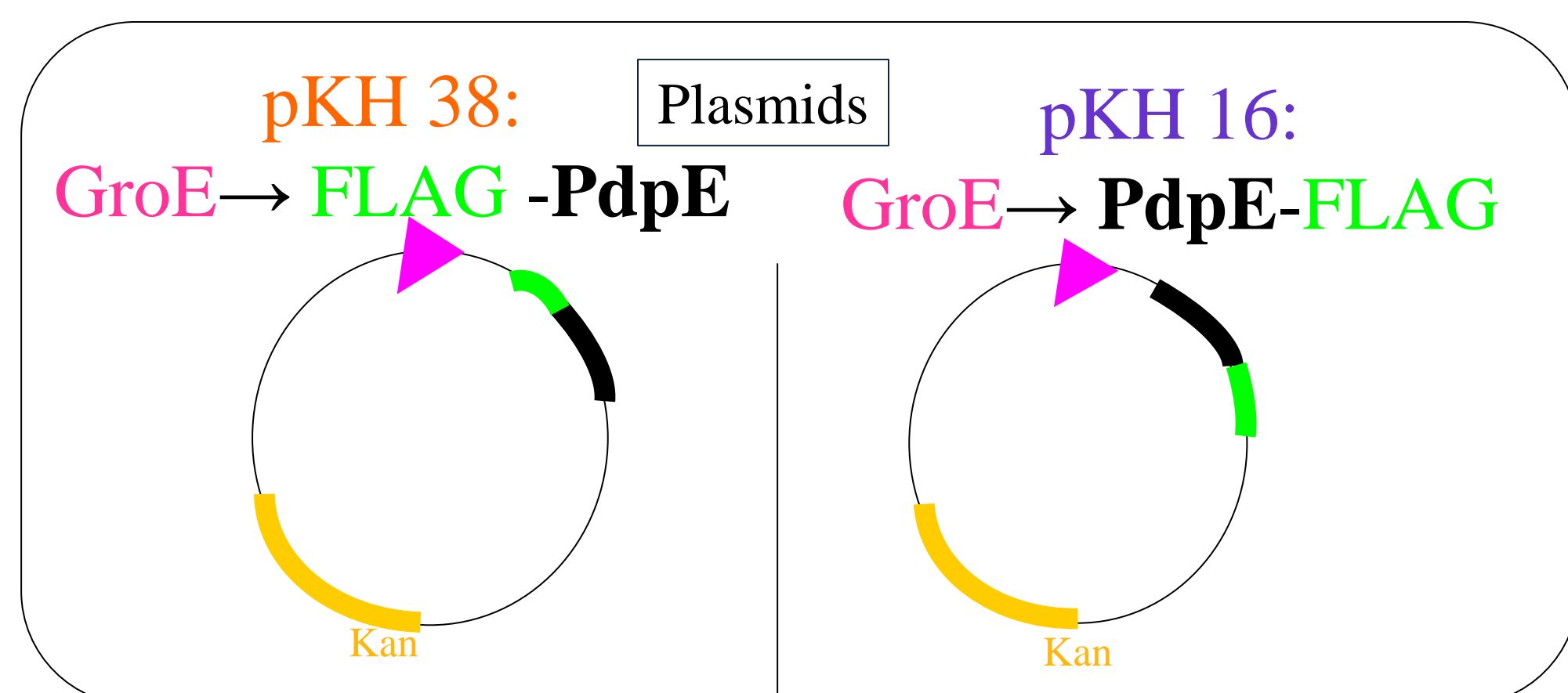
### Restriction Enzyme Digest



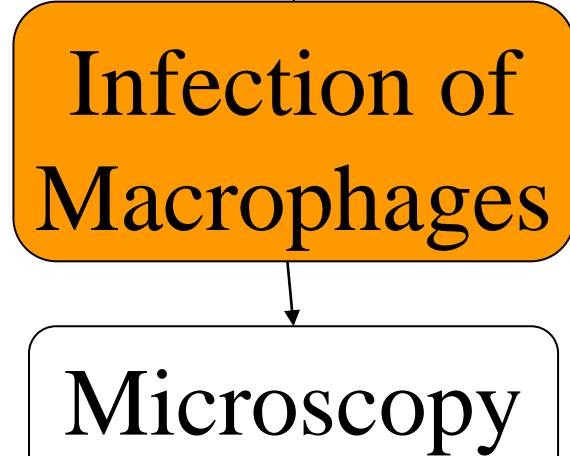
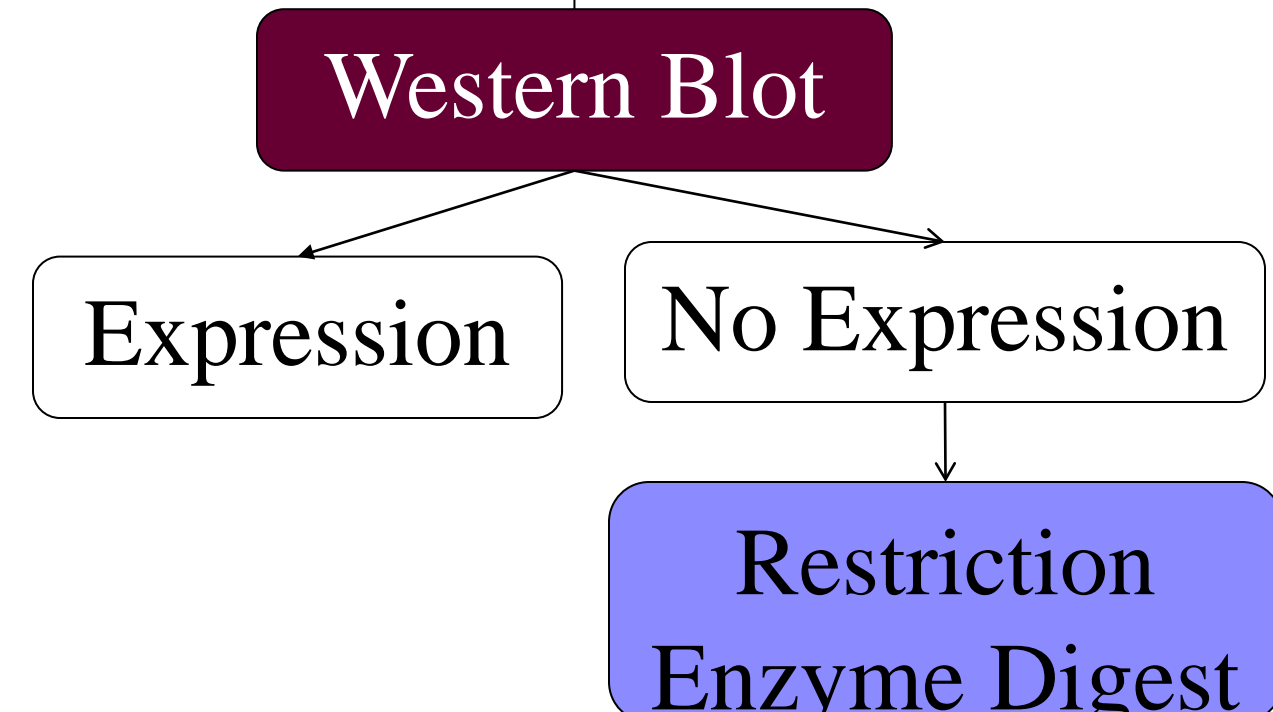
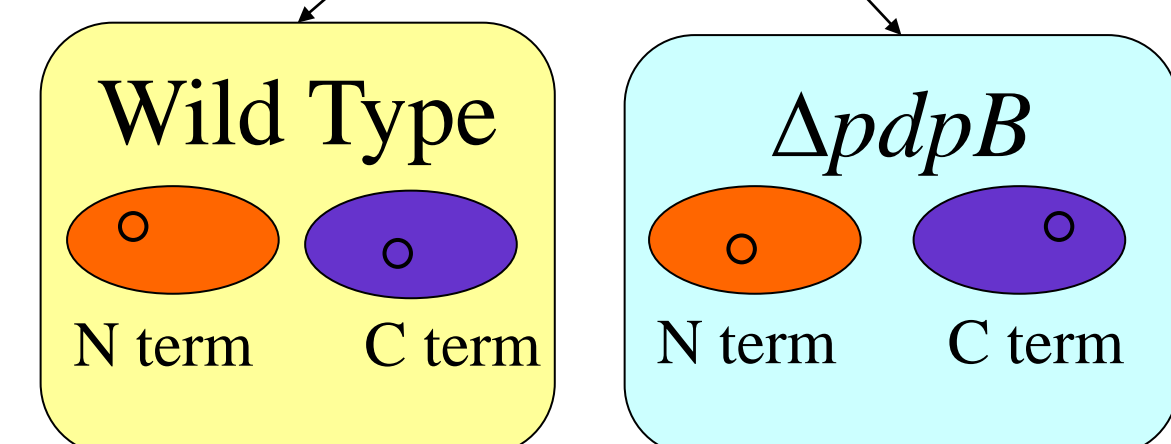
## Conclusions

- Microscopy of N-term FLAG revealed little to no protein detection.
- Western blot showed no protein expression of N-term FLAG
- RED shows that Plasmid and gene are present.
- N-FLAG disrupts protein integrity.
- PdpE requires a free N-terminus for expression

## Methods

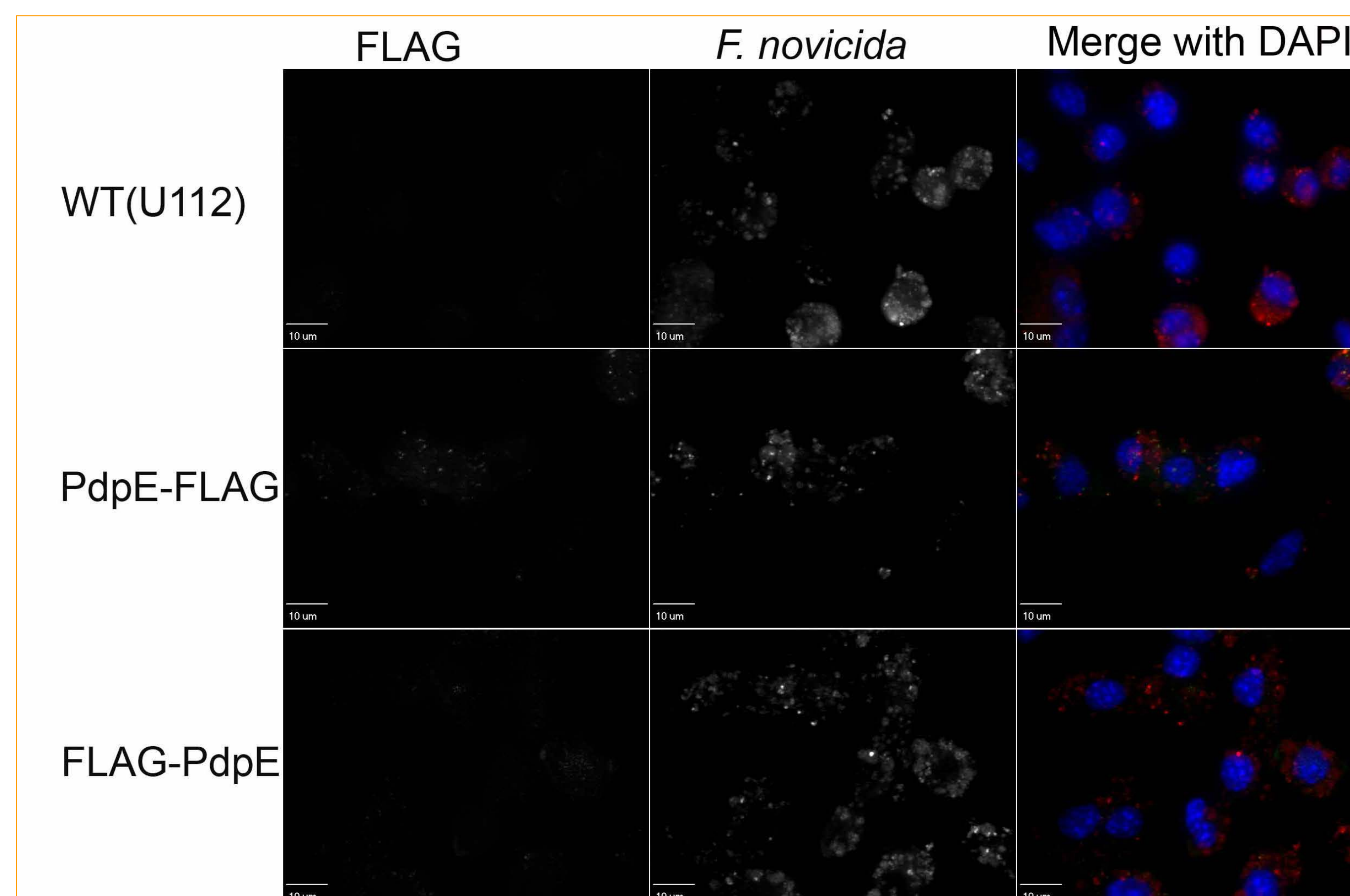


### Transformation



## My Results

### Infection



## Acknowledgements

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