

## Aberystwyth University

### *Cupid, a cell permeable peptide derived from amoeba, capable of delivering GFP into a diverse range of species*

Fenton, Daniel; Phillips, Dylan; Maddison, Anne; H. George, Christopher; Ryves, Jonathan; D. Jones, Huw

*Published in:*  
Scientific Reports

*DOI:*  
[10.1038/s41598-020-70532-x](https://doi.org/10.1038/s41598-020-70532-x)

*Publication date:*  
2020

*Citation for published version (APA):*

Fenton, D., Phillips, D., Maddison, A., H. George, C., Ryves, J., & D. Jones, H. (2020). Cupid, a cell permeable peptide derived from amoeba, capable of delivering GFP into a diverse range of species. *Scientific Reports*, 10(1), [13725]. <https://doi.org/10.1038/s41598-020-70532-x>

#### **Document License** CC BY

#### **General rights**

Copyright and moral rights for the publications made accessible in the Aberystwyth Research Portal (the Institutional Repository) are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the Aberystwyth Research Portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the Aberystwyth Research Portal

#### **Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

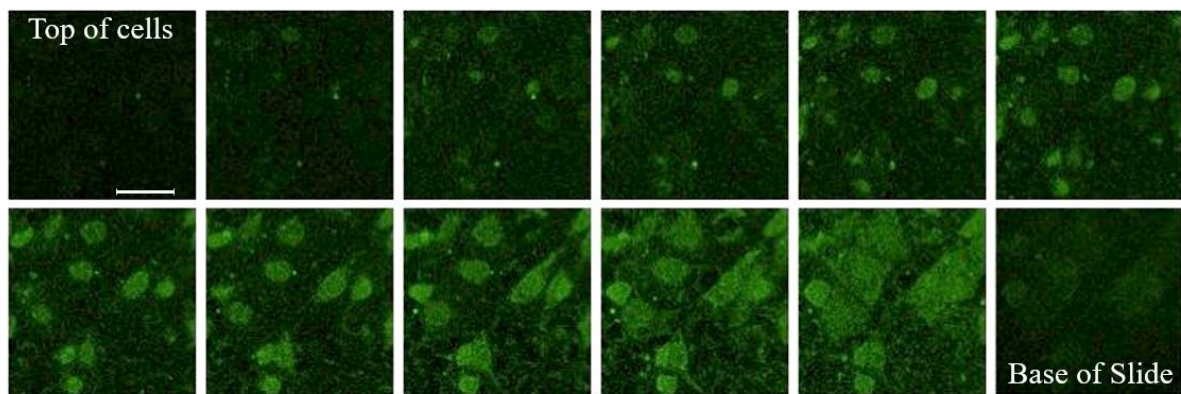
tel: +44 1970 62 2400  
email: [is@aber.ac.uk](mailto:is@aber.ac.uk)

## Supplementary Figures

Manuscript title:

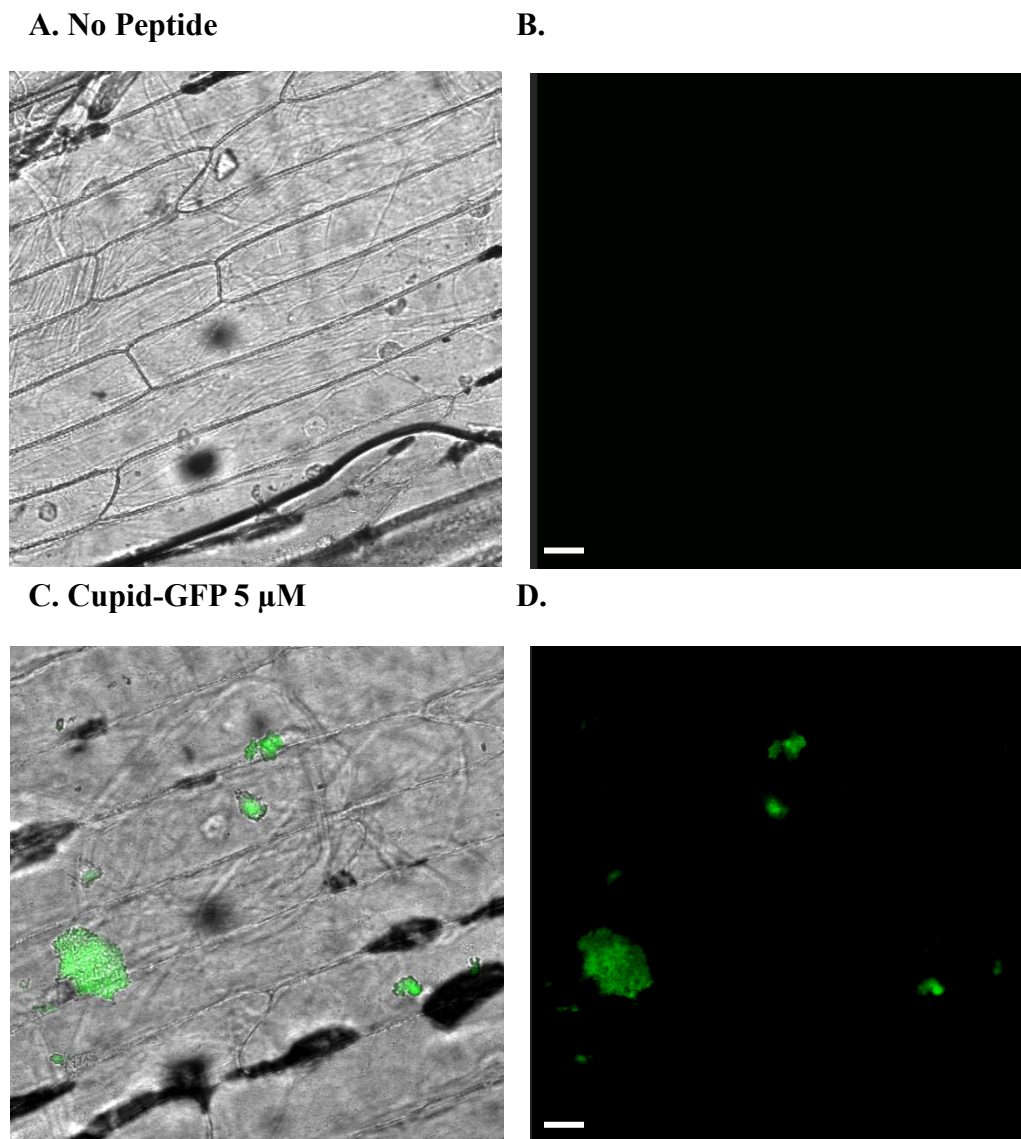
Cupid, a cell permeable peptide derived from amoeba, capable of delivering GFP into a diverse range of species.

### Supplemental Figure 1.



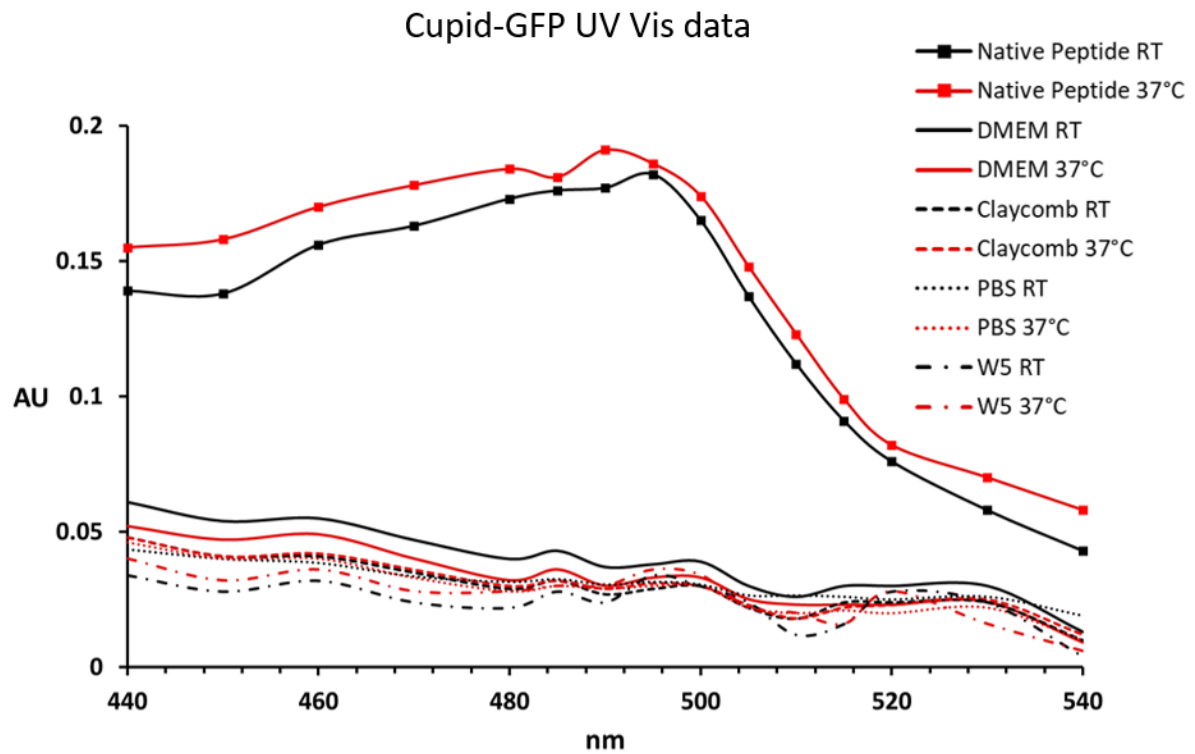
**Supplemental Fig 1.** Z-Slice green fluorescent confocal imaging of confluent mouse cardiomyocytes at 1 hour after 5  $\mu$ M Cupid-GFP addition. Consecutive Z-Slices from top of cells are shown from left to right to the base of the slide. Scale bar 20 $\mu$ m

**Supplemental Figure 2.**



**Supplemental Fig 2.** Onion epidermis imaged 1 hour after addition of either water (**A, B**) or 5  $\mu$ M native fluorescent Cupid-GFP (**C, D**). Images **A** & **C** show merged phase contrast and green fluorescence channels. **B** & **D** show green fluorescence alone. Scale bar 50 $\mu$ m.

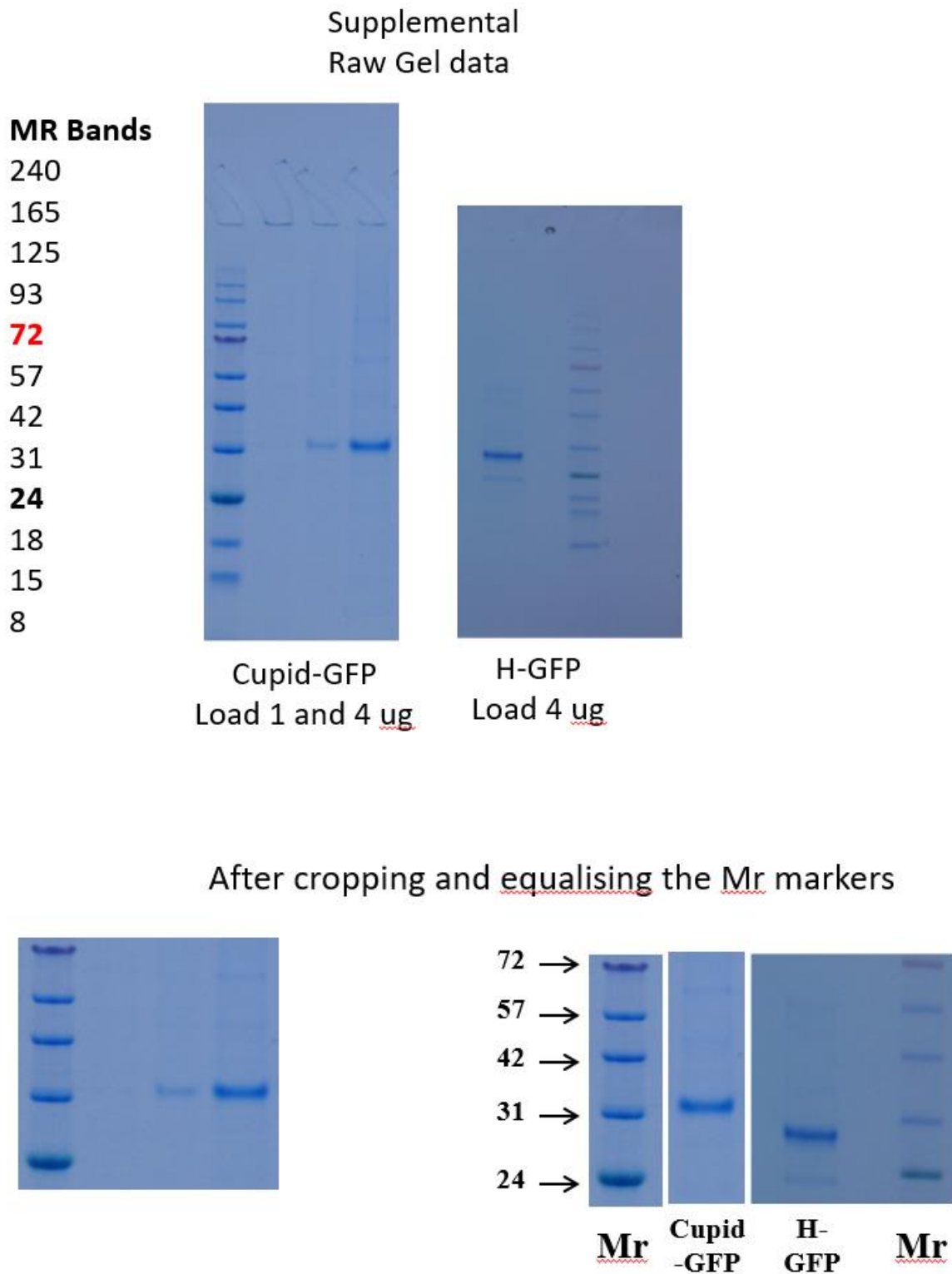
Supplemental Figure 3.



Supplemental Fig 3.

UV-Vis absorption spectra of denatured Cupid-GFP (50 μM) after incubation in a range of cell-culture media for over 24h at room temperature (RT) or 37°C. Native (folded and fluorescent) Cupid-GFP incubated in water at RT or 37°C for 24h also included. Y-axis: absorbance units, X-axis: nanometers.

Supplemental Fig 4.



Supplemental Fig 4.

Full-length SDS-PAGE gels showing that purified Cupid-GFP and H-GFP migrated as single bands at the expected mass of of 32.3 kD and 29.2 kD respectively.

**Supplemental Video.** After treatment of a living *Phymocyces blakesleanus* mycelia network within a 5 mm deep agar block with 5  $\mu$ M Cupid-GFP for 90 minutes, a Z-plane time-lapse video (8 sec/frame) was taken over the course of 1 minute 42 sec. **Video 1** with phase contrast; **Video 2** with green fluorescent filters; and **Video 3** combined overlay.