

Aberystwyth University

Proteomics and in silico approaches to extend understanding of the glutathione transferase superfamily of the tropical liver fluke Fasciola gigantica

Morphew, Russell M; Eccleston, Neil; Wilkinson, Toby J; McGarry, John; Perally, Samirah; Prescott, Mark; Ward, Deborah; Williams, Diana; Paterson, Steve; Raman, M; Ravikumar, G; Khalid Saifullah, M; Abbas Abidi, S M; McVeigh, Paul; Maule, Aaron G; Brophy, Peter M; LaCourse, E James

Published in:

Journal of Proteome Research

DOI:

[10.1021/pr300654w](https://doi.org/10.1021/pr300654w)

Publication date:

2012

Citation for published version (APA):

Morphew, R. M., Eccleston, N., Wilkinson, T. J., McGarry, J., Perally, S., Prescott, M., Ward, D., Williams, D., Paterson, S., Raman, M., Ravikumar, G., Khalid Saifullah, M., Abbas Abidi, S. M., McVeigh, P., Maule, A. G., Brophy, P. M., & LaCourse, E. J. (2012). Proteomics and in silico approaches to extend understanding of the glutathione transferase superfamily of the tropical liver fluke *Fasciola gigantica*. *Journal of Proteome Research*, 11(12), 5876–5889. <https://doi.org/10.1021/pr300654w>

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

Table S1. Protein identification of rFgGST-S1 using MASCOT. Spectra from mass spectrometry were subjected to MSMS ion searches using MASCOT (Matrix Science). Significant hits, at P = 5%, have a MASCOT score of 52 or greater. All reported accession numbers are from GenBank.

Figure S1. MSMS sequence analysis using peptide sequencer (MassLynx v. 5.0, Micromass, UK) from the fragmentation of a precursor ion m/z 534.75 (2+) representative of the Sigma class GST. Interpretation of the y and b ion series provided the peptide sequence YQESMAIAR.

Figure S2. MSMS sequence analysis using peptide sequencer (MassLynx v. 5.0, Micromass, UK) from the fragmentation of a precursor ion m/z 889.99 (2+) representative of the Sigma class GST. Interpretation of the y and b ion series provided the peptide sequence TDEEYYLIER.

Figure S3. Representative 2DE protein arrays of *F. gigantea* GSTs purified from somatic extracts highlighting the non-specific binding of proteins using S-hexyl-GSH agarose. 15 µg of S-hexyl-GSH agarose binding proteins were profiled on a 12.5 % polyacrylamide gel via two-dimensional electrophoresis (2DE) and stained with coomassie blue. Proteins were isoelectric focused on 17 cm pH 3-10 non-linear immobilised pH gradient (IPG) strips. Boxed is the region of the gel shown in Figure 2.

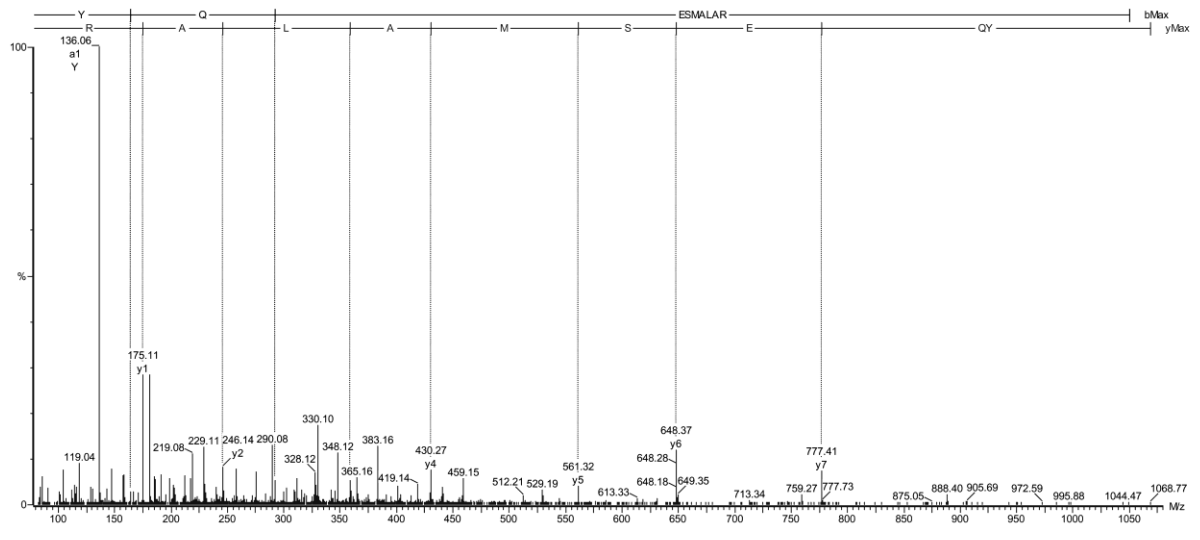


Figure S1

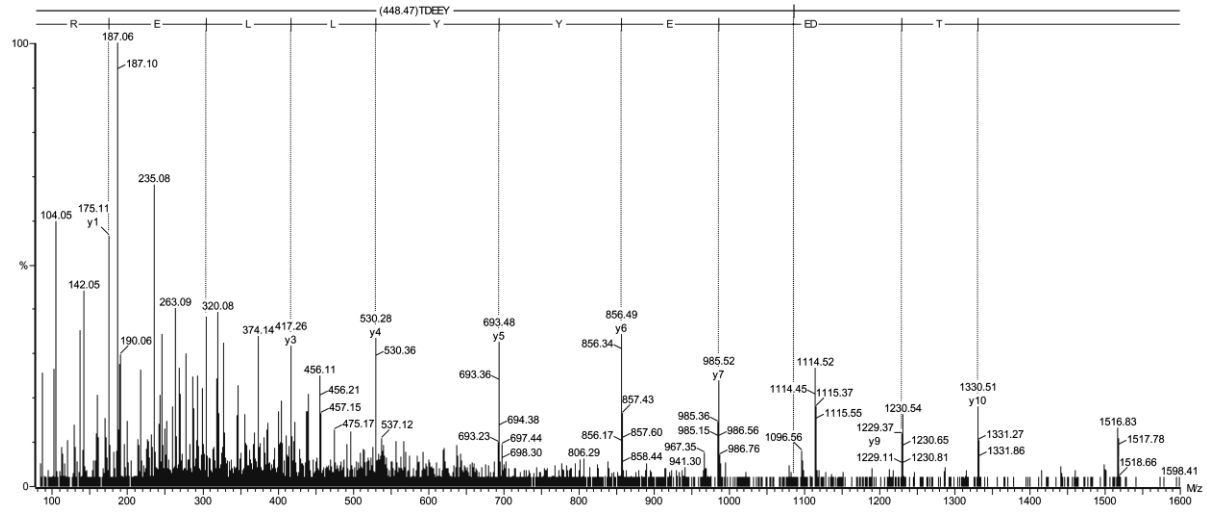


Figure S2

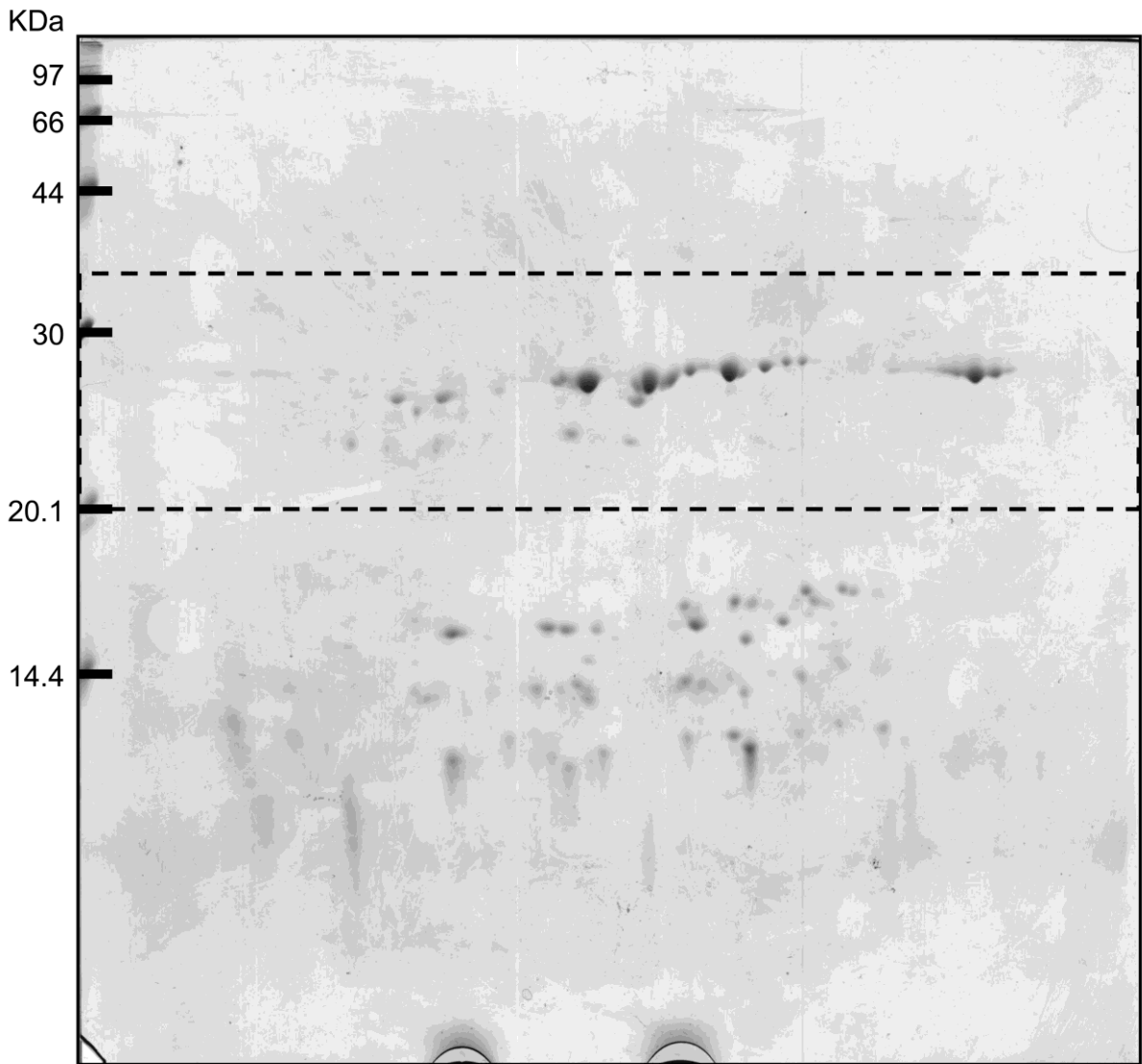


Figure S3

Table S1

Spot Number	NCBI Accession Number	MASCOT Score	Protein	Organism	% Coverage	Unique Peptides	Peptides Hit
1	2WB9_A	120	Sigma Class GST	Fasciola hepatica	17	3	VPLLDVTGPDGK MMGETDEEYYLIER IIGECEDLYR
2	2WB9_A	179	Sigma Class GST	Fasciola hepatica	18	3	VPLLDVTGPDGK MMGETDEEYYLIER LVSESLESSGGK
3	2WB9_A	241	Sigma Class GST	Fasciola hepatica	21	4	VPLLDVTGPDGK YQESMAIAR MMGETDEEYYLIER IIGECEDLYR
4	2WB9_A	158	Sigma Class GST	Fasciola hepatica	17	3	LVSESLESSGGK IIGECEDLYR MMGETDEEYYLIER
5	2WB9_A	167	Sigma Class GST	Fasciola hepatica	17	3	MMGETDEEYYLIER IIGECEDLYR LVSESLESSGGK
6	2WB9_A	339	Sigma Class GST	Fasciola hepatica	34	7	LWYFQFR VPLLDVTGPDGK YQESMAIAR MMGETDEEYYLIER IIGECEDLYR ENNGPTLLK LVSESLESSGGK
7	2WB9_A	313	Sigma Class GST	Fasciola hepatica	27	5	YQESMAIAR LVSESLESSGGK VPLLDVTGPDGK IIGECEDLYR MMGETDEEYYLIER