

SUPPLEMENTAL MATERIAL

Genome-wide analysis of protein disorder in *Arabidopsis thaliana*. Implications for environmental adaptation

Natalia Pietrosevoli^{1,3}, Juan A. García-Martín², Roberto Solano^{2*} and Florencio Pazos^{1*}

¹Computational System Biology Group, National Centre for Biotechnology (CNB-CSIC).

²Plant Molecular Genetics Department, National Centre for Biotechnology (CNB-CSIC).

³Department of Bioengineering, Rice University. Houston, Texas.

Corresponding authors: fpazos@cnb.csic.es, rsolano@cnb.csic.es

	Mean content of disorder (%)		Mean number of LDW		Proteins with at least one LDW (%)		Mean number of residues belonging to LDWs	
	<i>A.th.</i>	<i>H.sa.</i>	<i>A.th.</i>	<i>H.sa.</i>	<i>A.th.</i>	<i>H.sa.</i>	<i>A.th.</i>	<i>H.sa.</i>
lupred (short)	17.0	22.4	0.6	1.4	36.3	60.9	9.0	14.9
lupred (long)	16.8	24.5	0.6	1.3	32.8	56.6	10.5	17.6
VSL2	38.9	44.9	1.2	1.9	68.1	78.9	26.1	34.4

Table 1S. Summary of intrinsic disorder metrics for *A. thaliana* and *H. sapiens*. Results shown for the different prediction methods.

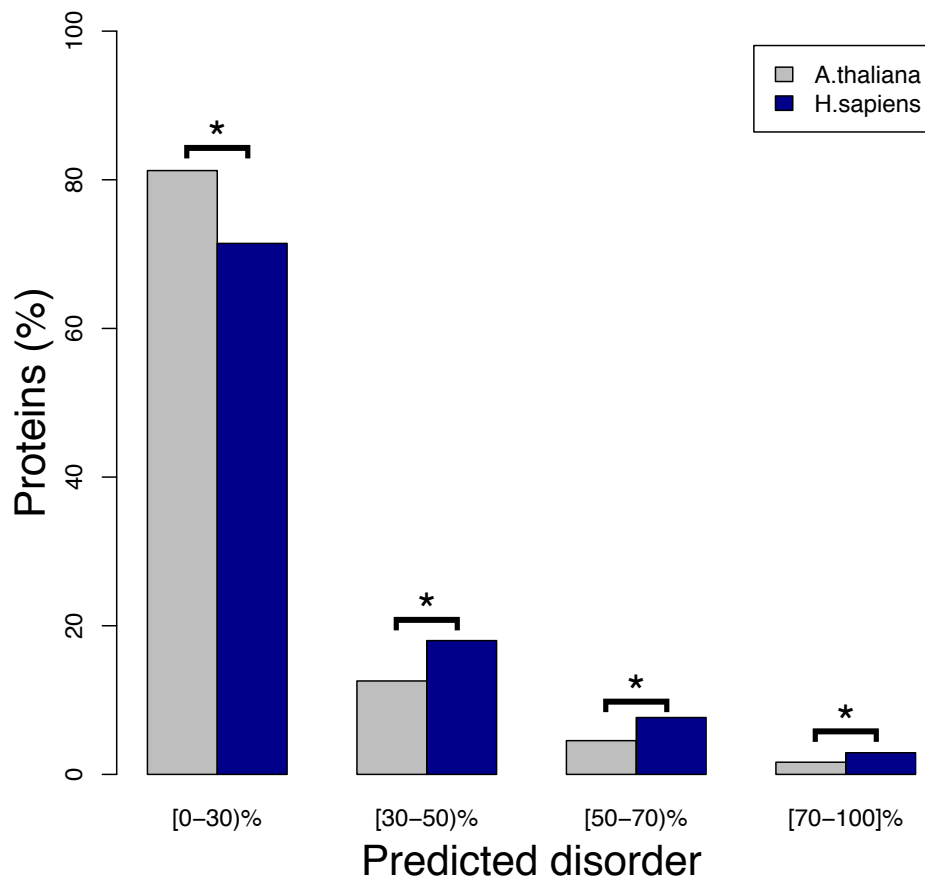


Figure 1S. Fraction of proteins with different degrees of predicted disorder in *A. thaliana* and Human. Protein disorder (as the percentage of disordered residues with respect to the sequence length) is binned into different ranges. Data based on lupred (short) predictions.

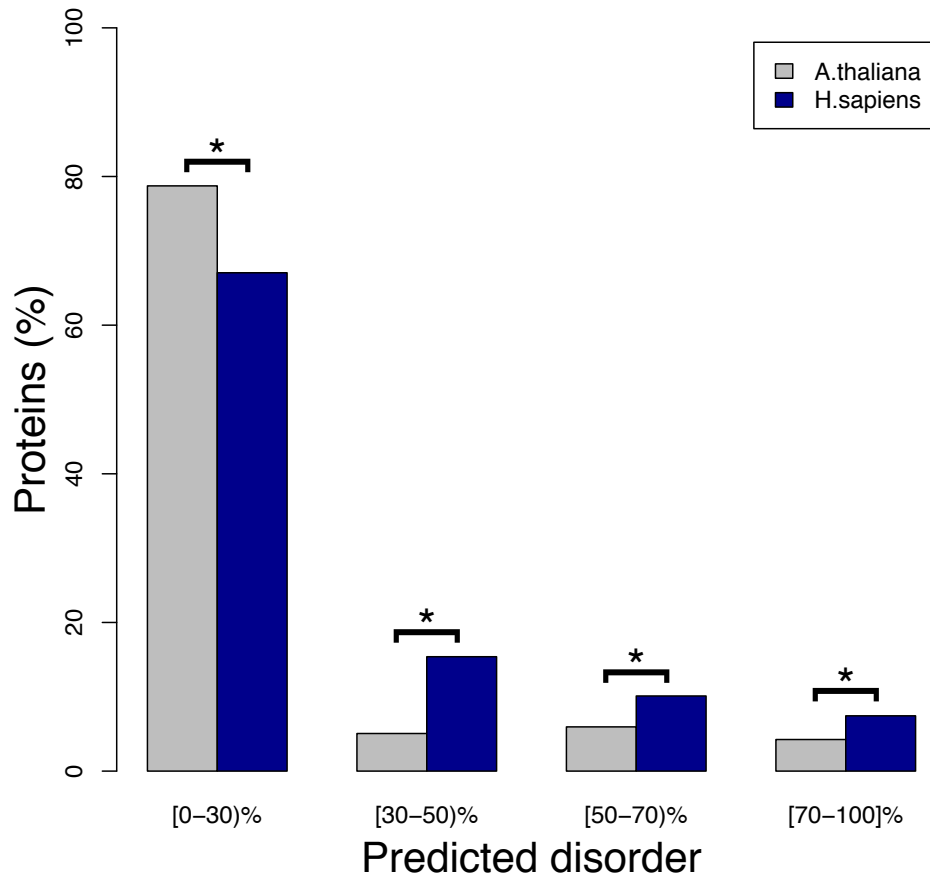


Figure 2S. Fraction of proteins with different degrees of predicted disorder in *A. thaliana* and Human. Protein disorder (as the percentage of disordered residues with respect to the sequence length) is binned into different ranges. Data based on lupred (long) predictions.

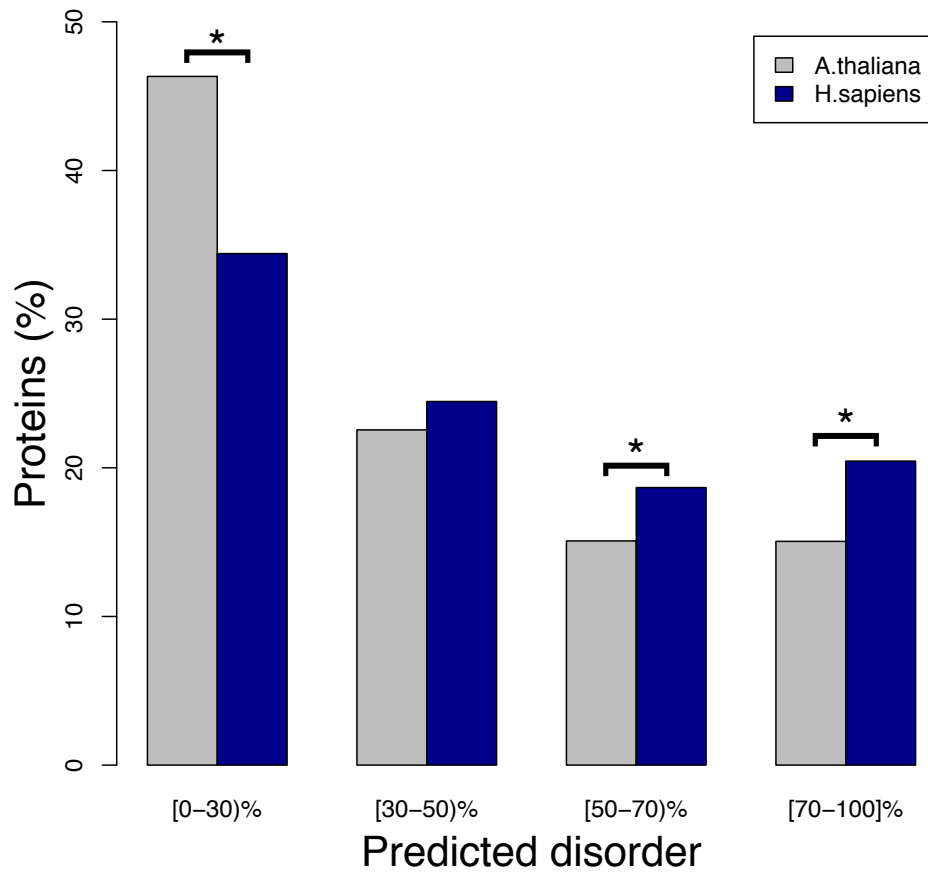


Figure 3S. Fraction of proteins with different degrees of predicted disorder in *A. thaliana* and Human. Protein disorder (as the percentage of disordered residues with respect to the sequence length) is binned into different ranges. Data based on VSL2 predictions.

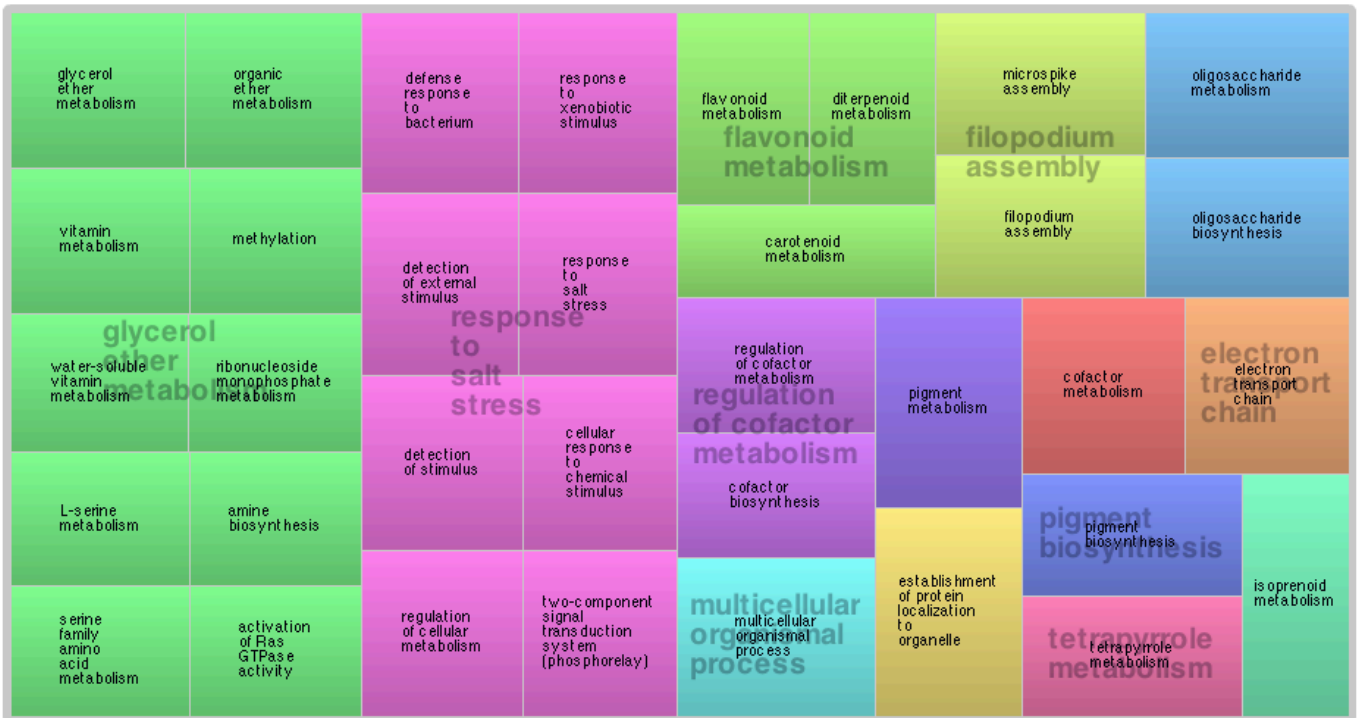


Figure 4S. Representation of the GO “Biological Processes” comparatively enriched in disordered proteins in *A. thaliana* respect to *H. sapiens*. Disordered proteins here are again those with 1 or more LDWs based on VSL2 predictions. Figure adapted from REVIGO, a system for summarizing and visualizing lists of GO terms. Each rectangle represents a cluster of related terms labelled according to a representative term. Rectangles are grouped in “superclusters” (identified with the same color) based on SimRel semantic similarity measure.

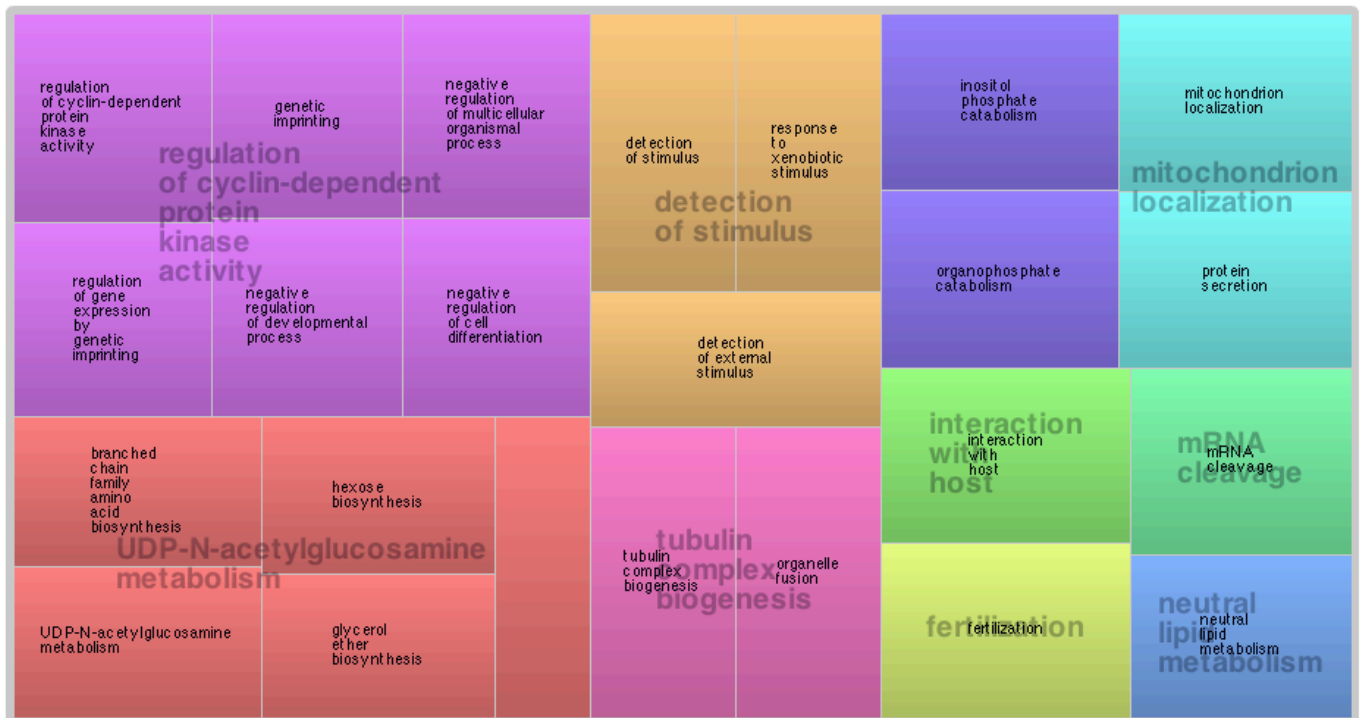


Figure 5S. Representation of the GO “Biological Processes” comparatively enriched in disordered proteins in *A. thaliana* respect to *H. sapiens*. Disordered proteins here are again those with 1 or more LDWs based on lupred (option “long”) predictions. Same REVIGO representation adaptation as in Figure 4S.



Figure 6S. Representation of the GO “Biological Processes” comparatively enriched in disordered proteins in *A. thaliana* respect to *H. sapiens*. Disordered proteins here are again those with 1 or more LDWs based on Lupred (option “short”) predictions. Same REVIGO representation adaptation as in Figure 4S.

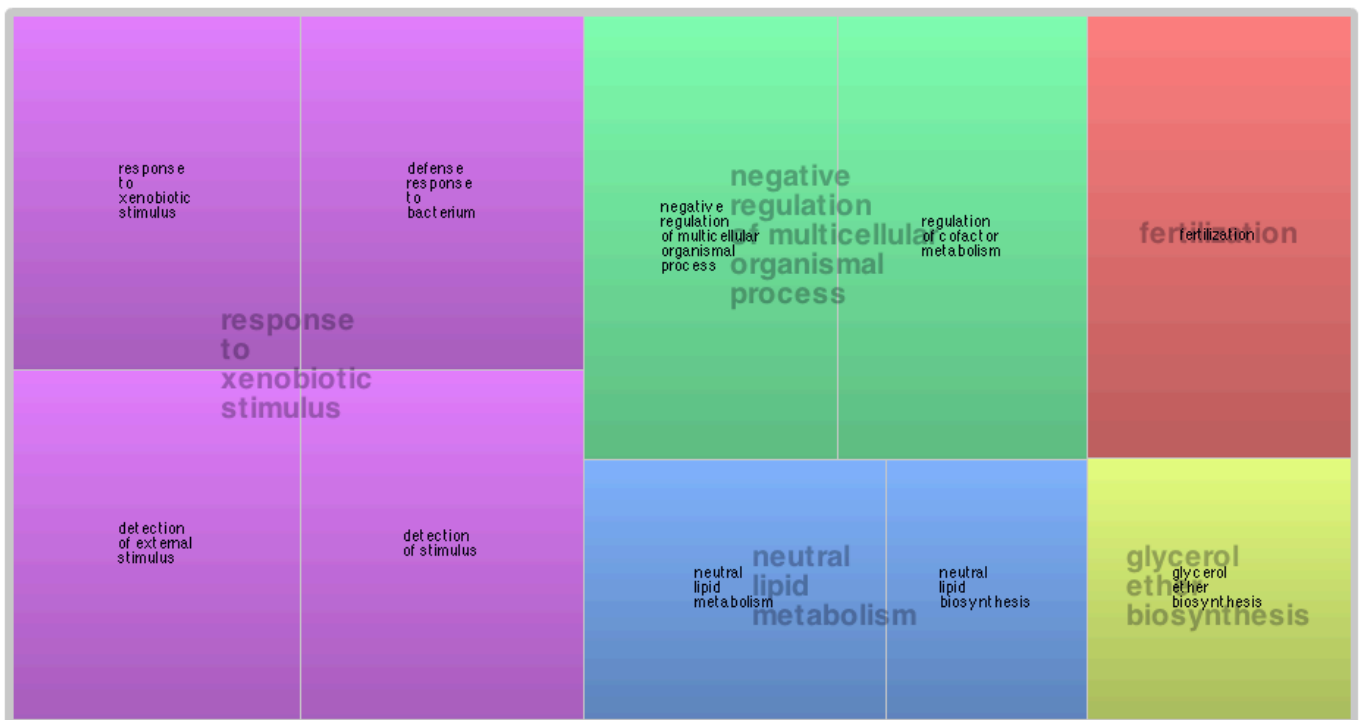


Figure 7S. Representation of the GO “Biological Processes” comparatively enriched in residues belonging to disordered binding regions (DBR) in *A. thaliana* with respect to *Human*. DBR are calculated based on ANCHOR predictions. Same REVIGO representation adaptation as in Figure 4S.