

Description of Additional Supplementary Files

Supplementary Data 1: Data information and gene list used for building the translation prediction model.

Supplementary Data 2: Nucleotide sequences of the 5' and 3' UTRs, coding sequences (CDSs) used for experimental validation, and primer sequences.

Supplementary Data 3: Source data for figure-2a (unseen genes). Supplementary Data 4: Source data for figure-2a (unseen environments).

Supplementary Data 5: Source data for figure-2a (unseen genes & environments).

Supplementary Data 6: Source data underlying the analysis presented in Figure 2c.

Supplementary Data 7: Source data underlying the analysis presented in Figure 3c.

Supplementary Data 8: Source data for Figure S8 (the pannel of HA).

Supplementary Data 9: Source data for Figure S8 (the pannel of NGF).

Supplementary Data 10: Consolidated source data for all remaining main and supplementary figures not provided in Data 3-9.