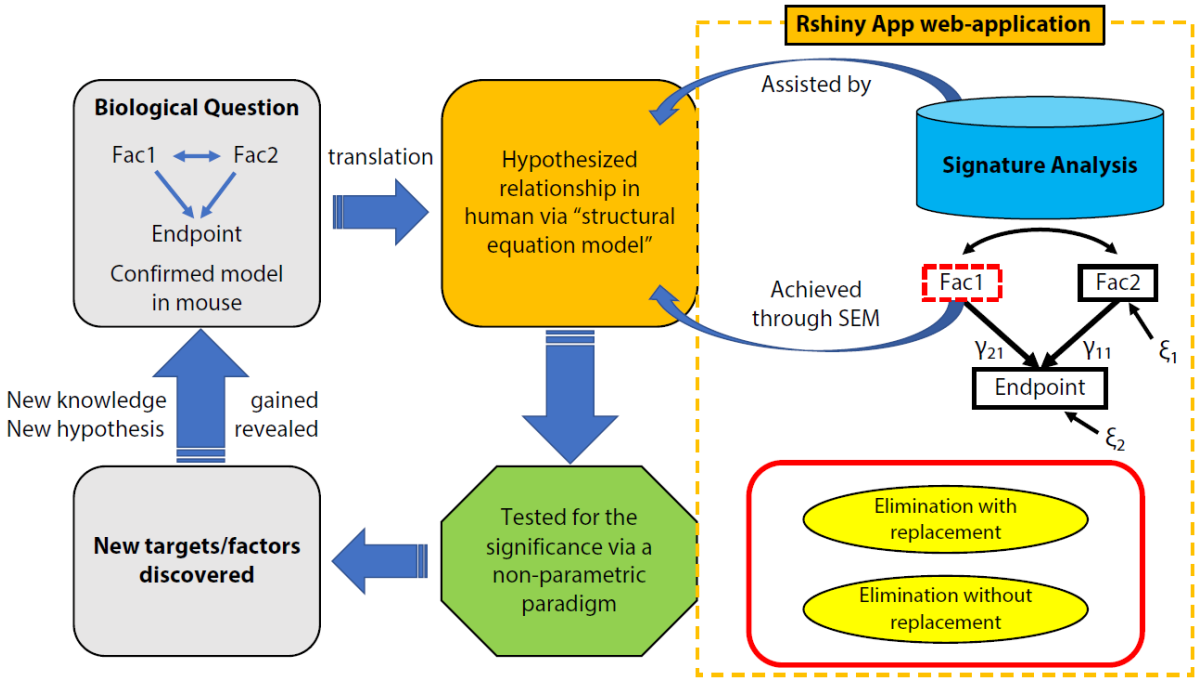
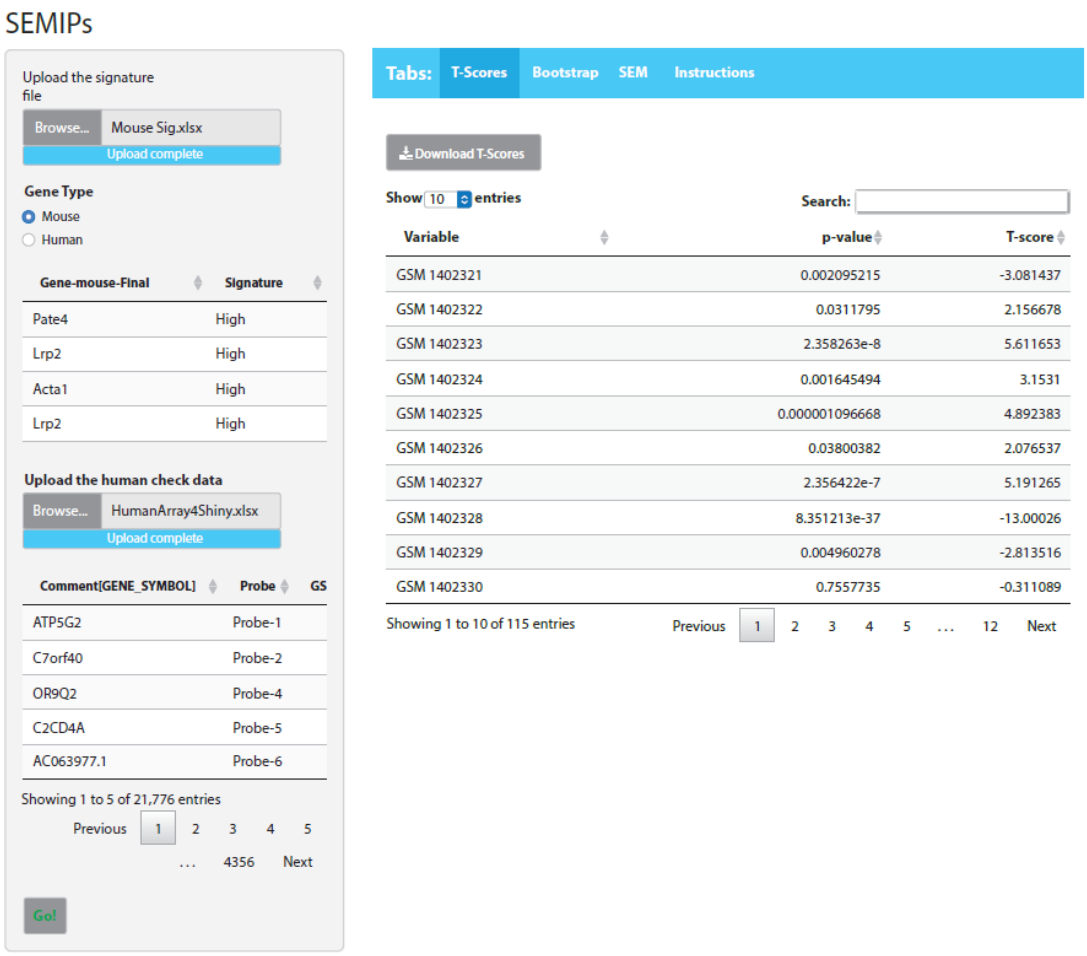
Figure 1. The SEMIPs web application. **A**. The workflow and application of SEMIPs. The left four rectangles and arrows indicate our hypothesis testing and generation schema. A biological hypothesis is tested in a model animal (mouse) on relationship between two interacting factors (Fac1 & Fac2) and their endpoints. The hypothesis is translated to another species (i.e. human in our research) via T-score computation and verified with SEM model. This process is accomplished with our shinyapp indicated by two curved arrows. γ_{11} and γ_{21} are correlation efficient and ξ are model residuals. The two-class bootstrap analysis is shown in the red rectangle box. Hypothesis generating and exploring steps are explained by the bottom two rectangles. **B.** The user interface is shown when it is launched. The main panel contains four tabs: "T-Scores", "SEM", "Bootstrap", and "Instruction". The right panel shows the screen when the "T-scores" is selected and generated. The left panel shows that the application accepts two inputs, 1) a list of signatures (in Entrez gene symbol format) and 2) a data matrix of expression measurement with the top lines shown for viewing. The green "Go!" button is clicked to launch the T-score generation and grayed out to denote that the process is running. The first 10 rows of the T-scores matrix are shown, which can be downloaded by clicking the "Download T-Scores" button.

A



B


SEMIPs
Upload the signature file
Browse...
Mouse Sig.xlsx
Upload complete
Gene Type
Mouse
Human
Gene-mouse-Final
Signature
Pate4
High
Lrp2
High
Acta1
High
Lrp2
High
Upload the human check data
Browse...
HumanArray4Shiny.xlsx
Upload complete
Comment[GENE_SYMBOL]
Probe
GS
ATP5G2
Probe-1
C7orf40
Probe-2
OR9Q2
Probe-4
C2CD4A
Probe-5
AC063977.1
Probe-6
Showing 1 to 5 of 21,776 entries
Previous 1 2 3 4 5 ... 4356 Next
Go!
Tabs: T-Scores Bootstrap SEM Instructions
Download T-Scores
Show 10 entries
Search:
Variable
p-value
T-score
GSM 1402321 0.002095215 -3.081437
GSM 1402322 0.0311795 2.156678
GSM 1402323 2.358263e-8 5.611653
GSM 1402324 0.001645494 3.1531
GSM 1402325 0.000001096668 4.892383
GSM 1402326 0.03800382 2.076537
GSM 1402327 2.356422e-7 5.191265
GSM 1402328 8.351213e-37 -13.00026
GSM 1402329 0.004960278 -2.813516
GSM 1402330 0.7557735 -0.311089
Showing 1 to 10 of 115 entries
Previous 1 2 3 4 5 ... 12 Next