

# Supplementary Materials

## LE-MDCAP: A computational model to prioritize causal miRNA-disease associations

### Supplementary Table

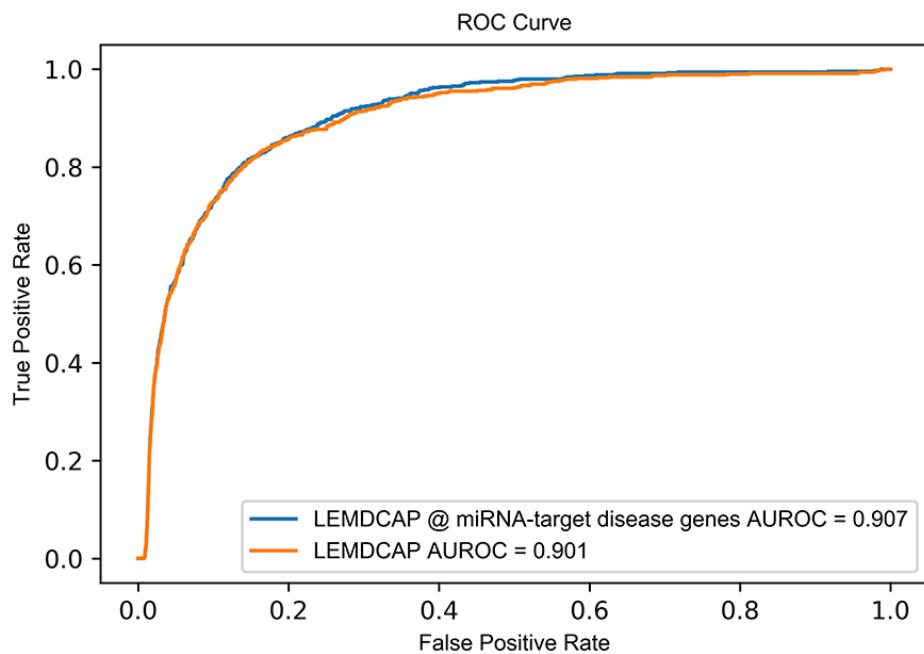
Supplementary Table S1. Performance of the algorithm under different weight integration conditions of  $MS_{SP}$ ,  $MS_{SM}$ , and  $MS_{SS}$

$MS_{SP}$	$MS_{SM}$	$MS_{SS}$	AUROC (causal vs. non-causal)	AUROC (causal vs. non-disease)
0.05	0.05	0.9	0.81727	0.90351
0.1	0.05	0.85	0.81718	0.90354
0.05	0.1	0.85	0.81714	0.90357
0.15	0.05	0.8	0.81711	0.90358
0.1	0.1	0.8	0.81707	0.90365
0.2	0.05	0.75	0.81704	0.90370
0.05	0.15	0.8	0.81702	0.90369
0.15	0.1	0.75	0.81699	0.90370
0.25	0.05	0.7	0.81697	0.90378
0.1	0.15	0.75	0.81694	0.90377

Supplementary Table S2. Performance of the algorithm under different weight integration conditions of  $MD'_S$ ,  $MD'_E$ ,  $MD'_P$ , and  $MD'_G$ .

$MD'_S$	$MD'_E$	$MD'_P$	$MD'_G$	AUROC (causal vs. non-disease)	AUROC (causal vs. non-causal)
0.35	0.4	0.15	0.1	0.9055169	0.8203798
0.35	0.35	0.2	0.1	0.9055168	0.820158
0.35	0.4	0.2	0.05	0.9055163	0.819574
0.3	0.4	0.2	0.1	0.9055139	0.820258
0.4	0.4	0.5	0.05	0.905512	0.819696
0.4	0.35	0.15	0.1	0.905512	0.820281
0.3	0.35	0.2	0.15	0.905512	0.820828
0.35	0.35	0.15	0.15	0.905505	0.82095
0.3	0.4	0.25	0.05	0.905503	0.819455
0.3	0.35	0.25	0.1	0.905501	0.820031

## Supplementary Figures

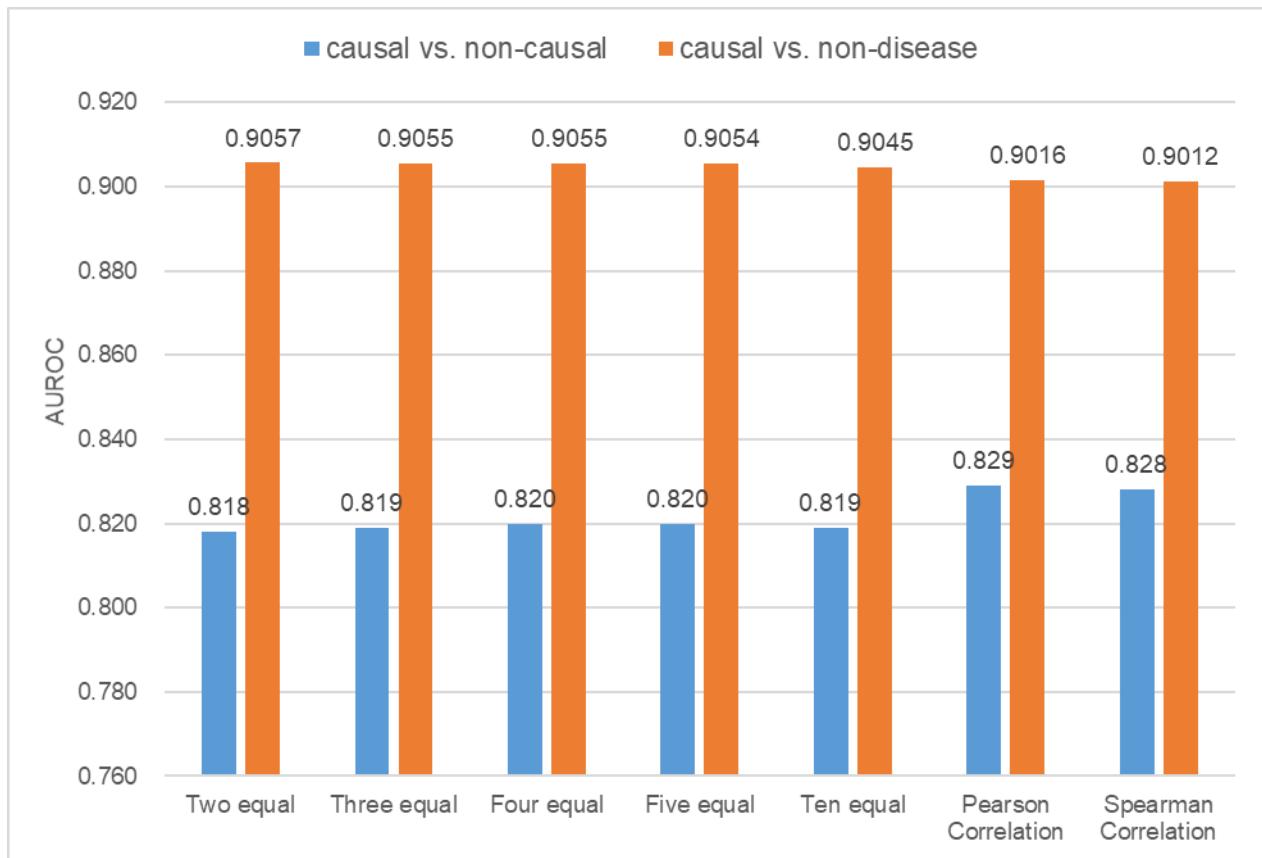


Supplementary Figure S1. Performance of LE-MDCAP after adding miRNA-target disease gene feature. ROC curve per-formed by modified LE-MDCAP in distinguishing causal miRNA-disease associations from the non-causal miRNA-disease associations.

## LE-MDCAP

The figure shows the query interface of the LE-MDCAP server. At the top, there is a blue header bar with the word "Query" in white. Below it is a search form. The search form has the following fields: "Query by:" dropdown set to "miRNA", "Query mode:" dropdown set to "exact", "Query keyword:" input field, and "Sort by:" dropdown set to "Disease". Below the search form are two buttons: "Click to Search" and "Reset all". The rest of the page is a plain white space.

Supplementary Figure S2. The query interface of LE-MDCAP server.



Supplementary Figure S3. Performance of LE-MDCAP under conditions of different classification of miRNA expression levels.