### Supplementary Table 1. Primers used in this study.

| Name          | Primer Type | Sequence (5'-3') |
|---------------|-------------|------------------|
| CircGSE1      | Forward     | CGCAAGCTCGCCAAACAG |
|               | Reverse     | GCCGTGGAAAGCATCCCTAT |
| Linear GSE1   | Forward     | ATGCTTACCACGCAGCACC |
|               | Reverse     | TGGGCTCTTCTGCGGTATT |
| GAPDH         | Forward     | CAATGACCCCTTCATTGACC |
|               | Reverse     | TTGATTGGAGGGATCTCG |
| NRP1          | Forward     | GACAAATGTGGCGGGACCATA |
|               | Reverse     | TGGATTAGCCATTCACCTTTC |
| miR323-5p     | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTGGATACGACGCAAC |
|               | Forward     | AGTGGGTCCGTCGCGC |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| miR320-3p     | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTCCGAGCTCC |
|               | Forward     | GCGAAAAGCTGGGTTGAGA |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| miR6769b-5P   | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTGGATACGACGCTTT |
|               | Forward     | CGCCTGTTGGGTTGGG |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| miR-6917-5P   | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTGGATACGACGCAAC |
|               | Forward     | CGCGTGTTGGAAGGGAGTT |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| miR-6924-5P   | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTGGATACGACACTTCG |
|               | Forward     | CGAGAGGATGGGAGATTTG |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| miR-6943-5P   | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTGGATACGACTAGCCTT |
|               | Forward     | GCGTGTTGGAAGGGAGTT |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| miR-6973a-5P  | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTGGATACGACCAACTC |
|               | Forward     | CGTACCGTGGGAGGGGTG |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| miR-7036b-3p  | Stem-loop   | GTCGTATCCAGTGCAGGGTCCAGGTATTCCGACTGGATACGACGCC |
|               | Forward     | GTTCTGTTGGGCTTCG |
|               | Reverse     | AGTGCAGGGTCCAGGTTATT |
| U6            | Stem-loop   | CTCACGTGGTGTCGTTGAGAATGCAAAATAT |
|               | Forward     | CAAAGATGACACGCAAA |
|               | Reverse     | TCAACTGTTGCTGCGG |
### Supplementary Table 2. Oligonucleotides and probes used in this study.

| Definition | Sequence (5'-3') |
|------------|-----------------|
| si-circGSE1-1 | Sense: AGCCCAGAGGCAUGAGCCA  
Antisense: UGGCUCAUGGCCUCUGGGCU |
| si-circGSE1-2 | Sense: CCAGAGGCAUGAGGCAUGA  
Antisense: UCAUGGCUCUAUGCCUCUGG |
| si-circGSE1-3 | Sense: CAGAGGCAUGAGGCAUGA  
Antisense: CUCAUGGCUCUAUGCCUCUG |
| si-NRP1-1 | Sense: GGGUGCAUUUCAAGGAA  
Antisense: CCCUCGGUAAGGUUCUUA |
| si-NRP1-2 | Sense: GCUGCAAGUUACAGAUA  
Antisense: CGACGUGUUACAUUGUUAAT |
| si-NRP1-3 | Sense: CCAAGUGAAGUGUGAAU |
| miR323-5p mimic | Sense: ACGAAGCGCCACGGACCCACCU  
Antisense: GCCGACCGGGCCACGGACCCACCU |
| miR323-5p inhibitor | GCGAACGCGCCACGGACCCACCU |
| Cy3-labeled circGSE1 probe | CTCATGCCTCTGGGCTCCTCT |
| FITC-labeled miR-323-5p probe | GCAACCGCCACGGACCCACCU |

### Supplementary Table 3. Primary antibodies for western blot and Immunohistochemistry.

| Antibody                   | Company/catalog number          |
|----------------------------|---------------------------------|
| NRP1 (western blot)        | Cell Signaling Technology, #3725 |
| NRP1 (Immunohistochemistry) | Abcam, ab81321                  |
| CD31 (Immunohistochemistry) | Abcam, ab28364                  |