| Pathway                       | Gene ranks            | NES   | pval    | padj    |
|-------------------------------|-----------------------|-------|---------|---------|
| HALLMARK_PANCREAS_BETA_CELLS  | I                     | 1.31  | 6.9e-02 | 9.4e-01 |
| HALLMARK_MYC_TARGETS_V2       |                       | 1.40  | 9.3e-02 | 9.4e-01 |
| HALLMARK_MYC_TARGETS_V1       | 1 1 1 11              | 1.14  | 3.2e-01 | 9.4e-01 |
| LLMARK_XENOBIOTIC_METABOLISM  | 1 1                   | 1.09  | 3.9e-01 | 9.4e-01 |
| HALLMARK_HYPOXIA              | l n                   | 1.06  | 4.0e-01 | 9.4e-01 |
| ARK_OXIDATIVE_PHOSPHORYLATION | 1 11                  | 0.92  | 5.7e-01 | 9.5e-01 |
| HALLMARK_MTORC1_SIGNALING     | I                     | 0.82  | 7.7e-01 | 9.5e-01 |
| HALLMARK_APOPTOSIS            | 1                     | 0.79  | 8.3e-01 | 9.5e-01 |
| HALLMARK_PEROXISOME           | 1 1                   | 0.69  | 8.4e-01 | 9.5e-01 |
| HALLMARK_DNA_REPAIR           | 1                     | 0.68  | 8.9e-01 | 9.5e-01 |
| MARK_PI3K_AKT_MTOR_SIGNALING  |                       | -0.97 | 5.2e-01 | 9.5e-01 |
| HALLMARK_UV_RESPONSE_DN       | ı.                    | -1.01 | 5.0e-01 | 9.5e-01 |
| HALLMARK_HEME_METABOLISM      | 11 11 11              | -1.07 | 3.8e-01 | 9.4e-01 |
| MARK_ESTROGEN_RESPONSE_LATE   | 1                     | -1.17 | 3.0e-01 | 9.4e-01 |
| ARK_ESTROGEN_RESPONSE_EARLY   | 1                     | -1.17 | 3.0e-01 | 9.4e-01 |
| K_UNFOLDED_PROTEIN_RESPONSE   | п (                   | -1.22 | 2.4e-01 | 9.4e-01 |
| HALLMARK_COAGULATION          | I .                   | -1.19 | 2.2e-01 | 9.4e-01 |
| LMARK_TNFA_SIGNALING_VIA_NFKB |                       | -1.27 | 1.9e-01 | 9.4e-01 |
| LMARK_INFLAMMATORY_RESPONSE   | 1 1 .                 | -1.32 | 1.5e-01 | 9.4e-01 |
| ARK_CHOLESTEROL_HOMEOSTASIS   |                       | -1.43 | 6.0e-02 | 9.4e-01 |
|                               | 0 100 200 300 400 500 |       |         |         |

Hallmark pathways NES from GSEA

