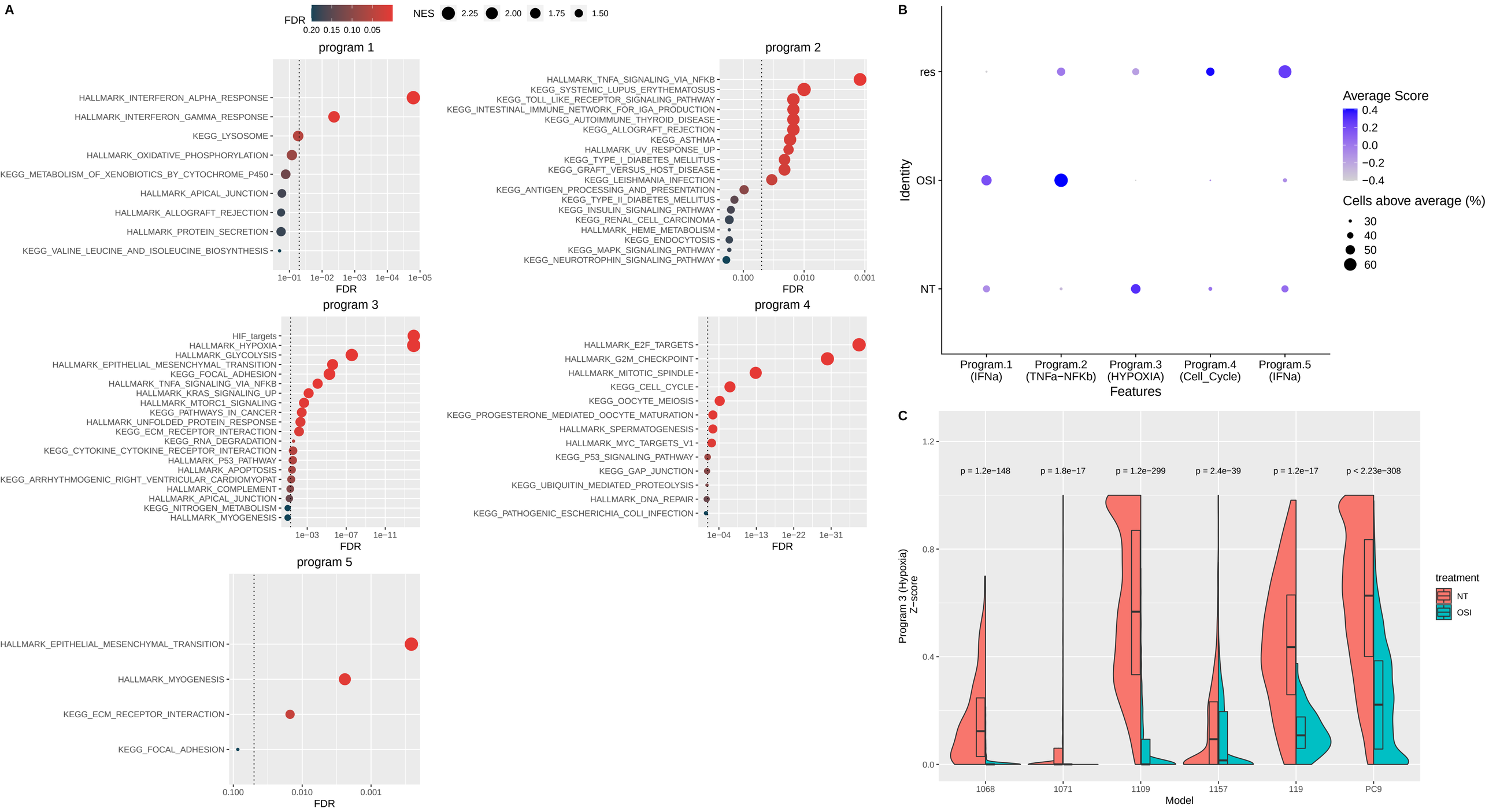
A
FDR
0.20 0.15 0.10 0.05
NES
2.25 2.00 1.75 1.50
program 1
HALLMARK_INTERFERON_ALPHA_RESPONSE
HALLMARK_INTERFERON_GAMMA_RESPONSE
KEGG_LYSOSOME
HALLMARK_OXIDATIVE_PHOSPHORYLATION
KEGG_METABOLISM_OF_XENOBIOTICS_BY_CYTOCHROME_P450
HALLMARK_APICAL_JUNCTION
HALLMARK_ALLOGRAFT_REJECTION
HALLMARK_PROTEIN_SECRETION
KEGG_VALINE_LEUCINE_AND_ISOLEUCINE_BIOSYNTHESIS
1e−01 1e−02 1e−03 1e−04 1e−05
FDR
program 2
HALLMARK_TNFA_SIGNALING_VIA_NFKB
KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION
KEGG_AUTOIMMUNE_THYROID_DISEASE
KEGG_ALLOGRAFT_REJECTION
KEGG_ASTHMA
HALLMARK_UV_RESPONSE_UP
KEGG_TYPE_I_DIABETES_MELLITUS
KEGG_GRAFT_VERSUS_HOST_DISEASE
KEGG_LEISHMANIA_INFECTION
KEGG_ANTIGEN_PROCESSING_AND_PRESENTATION
KEGG_TYPE_II_DIABETES_MELLITUS
KEGG_INSULIN_SIGNALING_PATHWAY
KEGG_RENAL_CELL_CARCINOMA
HALLMARK_HEME_METABOLISM
KEGG_ENDOCYTOSIS
KEGG_MAPK_SIGNALING_PATHWAY
KEGG_NEUROTROPHIN_SIGNALING_PATHWAY
0.100 0.010 0.001
FDR
program 3
HIF_targets
HALLMARK_HYPOXIA
HALLMARK_GLYCOLYSIS
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION
KEGG_FOCAL_ADHESION
HALLMARK_TNFA_SIGNALING_VIA_NFKB
HALLMARK_KRAS_SIGNALING_UP
HALLMARK_MTORC1_SIGNALING
KEGG_PATHWAYS_IN_CANCER
HALLMARK_UNFOLDED_PROTEIN_RESPONSE
KEGG_ECM_RECEPTOR_INTERACTION
KEGG_RNA_DEGRADATION
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION
HALLMARK_P53_PATHWAY
HALLMARK_APOPTOSIS
KEGG_ARRHYTHMOGENIC_RIGHT_VENTRICULAR_CARDIOMYOPAT
HALLMARK_COMPLEMENT
HALLMARK_APICAL_JUNCTION
KEGG_NITROGEN_METABOLISM
HALLMARK_MYOGENESIS
1e−03 1e−07 1e−11
FDR
program 4
HALLMARK_E2F_TARGETS
HALLMARK_G2M_CHECKPOINT
HALLMARK_MITOTIC_SPINDLE
KEGG_CELL_CYCLE
KEGG_OOCYTE_MEIOSIS
KEGG_PROGESTERONE_MEDIATED_OOCYTE_MATURATION
HALLMARK_SPERMATOGENESIS
HALLMARK_MYC_TARGETS_V1
KEGG_P53_SIGNALING_PATHWAY
KEGG_GAP_JUNCTION
KEGG_UBIQUITIN_MEDIATED_PROTEOLYSIS
HALLMARK_DNA_REPAIR
KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTION
1e−04 1e−13 1e−22 1e−31
FDR
program 5
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION
HALLMARK_MYOGENESIS
KEGG_ECM_RECEPTOR_INTERACTION
KEGG_FOCAL_ADHESION
0.100 0.010 0.001
FDR
B
Identity
res
OSI
NT
Program.1 (IFNa)
Program.2 (TNFa−NFKb)
Program.3 (HYPOXIA)
Program.4 (Cell_Cycle)
Program.5 (IFNa)
Features
Average Score
0.4
0.2
0.0
−0.2
−0.4
Cells above average (%)
30
40
50
60
C
Program 3 (Hypoxia) Z−score
1.2
0.8
0.4
0.0
p = 1.2e−148
p = 1.8e−17
p = 1.2e−299
p = 2.4e−39
p = 1.2e−17
p < 2.23e−308
1068
1071
1109
1157
119
PC9
Model
treatment
NT
OSI