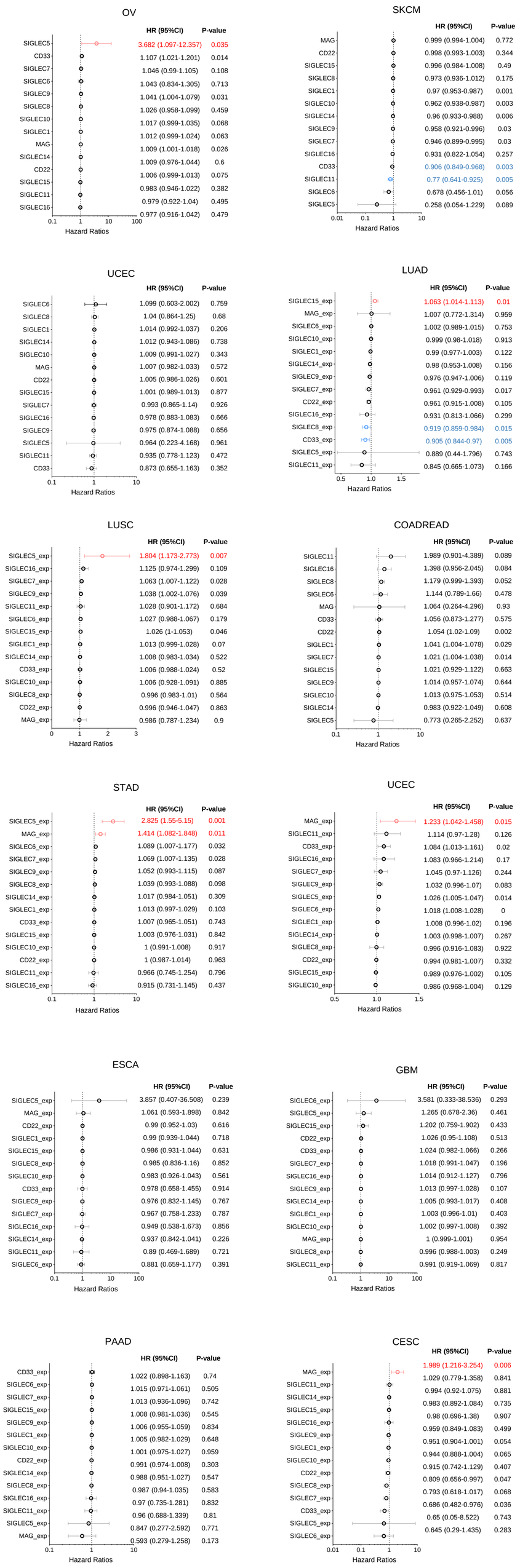
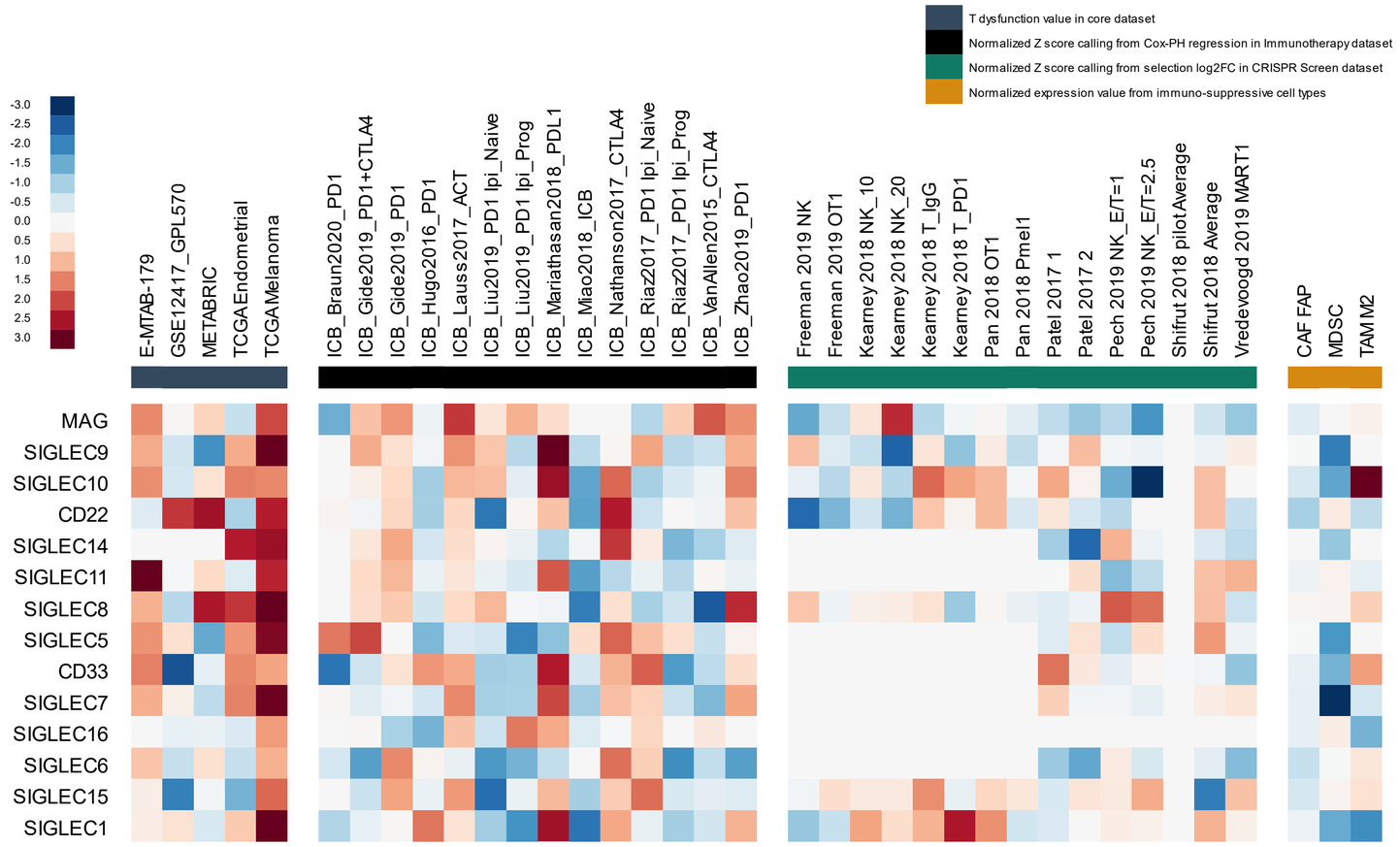
Figure 4

A


OV
HR (95%CI) P-value
SIGLEC5 3.682 (1.097-12.357) 0.035
CD33 1.107 (1.021-1.201) 0.014
SIGLEC7 1.046 (0.99-1.105) 0.108
SIGLEC6 1.043 (0.834-1.305) 0.713
SIGLEC9 1.041 (1.004-1.079) 0.031
SIGLEC8 1.026 (0.958-1.099) 0.459
SIGLEC10 1.017 (0.999-1.035) 0.068
SIGLEC1 1.012 (0.999-1.024) 0.063
MAG 1.009 (1.001-1.018) 0.026
SIGLEC14 1.009 (0.976-1.044) 0.6
CD22 1.006 (0.999-1.013) 0.075
SIGLEC15 0.983 (0.946-1.022) 0.382
SIGLEC11 0.979 (0.922-1.04) 0.495
SIGLEC16 0.977 (0.916-1.042) 0.479
Hazard Ratios
SKCM
HR (95%CI) P-value
MAG 0.999 (0.994-1.004) 0.772
CD22 0.998 (0.993-1.003) 0.344
SIGLEC15 0.996 (0.984-1.008) 0.49
SIGLEC8 0.973 (0.936-1.012) 0.175
SIGLEC1 0.97 (0.953-0.987) 0.001
SIGLEC10 0.962 (0.938-0.987) 0.003
SIGLEC14 0.96 (0.933-0.988) 0.006
SIGLEC9 0.958 (0.921-0.996) 0.03
SIGLEC7 0.946 (0.899-0.995) 0.03
SIGLEC16 0.931 (0.822-1.054) 0.257
CD33 0.906 (0.849-0.968) 0.003
SIGLEC11 0.77 (0.641-0.925) 0.005
SIGLEC6 0.678 (0.456-1.01) 0.056
SIGLEC5 0.258 (0.054-1.229) 0.089
Hazard Ratios
UCEC
HR (95%CI) P-value
SIGLEC6 1.099 (0.603-2.002) 0.759
SIGLEC8 1.04 (0.864-1.25) 0.68
SIGLEC1 1.014 (0.992-1.037) 0.206
SIGLEC14 1.012 (0.943-1.086) 0.738
SIGLEC10 1.009 (0.991-1.027) 0.343
MAG 1.007 (0.982-1.033) 0.572
CD22 1.005 (0.986-1.026) 0.601
SIGLEC15 1.001 (0.989-1.013) 0.877
SIGLEC7 0.993 (0.865-1.14) 0.926
SIGLEC16 0.978 (0.883-1.083) 0.666
SIGLEC9 0.975 (0.874-1.088) 0.656
SIGLEC5 0.964 (0.223-4.168) 0.961
SIGLEC11 0.935 (0.778-1.123) 0.472
CD33 0.873 (0.655-1.163) 0.352
Hazard Ratios
LUAD
HR (95%CI) P-value
SIGLEC15_exp 1.063 (1.014-1.113) 0.01
MAG_exp 1.007 (0.772-1.314) 0.959
SIGLEC6_exp 1.002 (0.989-1.015) 0.753
SIGLEC10_exp 0.999 (0.98-1.018) 0.913
SIGLEC1_exp 0.99 (0.977-1.003) 0.122
SIGLEC14_exp 0.98 (0.953-1.008) 0.156
SIGLEC9_exp 0.976 (0.947-1.006) 0.119
SIGLEC7_exp 0.961 (0.929-0.993) 0.017
CD22_exp 0.961 (0.915-1.008) 0.105
SIGLEC16_exp 0.931 (0.813-1.066) 0.299
SIGLEC8_exp 0.919 (0.859-0.984) 0.015
CD33_exp 0.905 (0.844-0.97) 0.005
SIGLEC5_exp 0.889 (0.44-1.796) 0.743
SIGLEC11_exp 0.845 (0.665-1.073) 0.166
Hazard Ratios
LUSC
HR (95%CI) P-value
SIGLEC5_exp 1.804 (1.173-2.773) 0.007
SIGLEC16_exp 1.125 (0.974-1.299) 0.109
SIGLEC7_exp 1.063 (1.007-1.122) 0.028
SIGLEC9_exp 1.038 (1.002-1.076) 0.039
SIGLEC11_exp 1.028 (0.901-1.172) 0.684
SIGLEC6_exp 1.027 (0.988-1.067) 0.179
SIGLEC15_exp 1.026 (1-1.053) 0.046
SIGLEC1_exp 1.013 (0.999-1.028) 0.07
SIGLEC14_exp 1.008 (0.983-1.034) 0.522
CD33_exp 1.006 (0.988-1.024) 0.52
SIGLEC10_exp 1.006 (0.928-1.091) 0.885
SIGLEC8_exp 0.996 (0.983-1.01) 0.564
CD22_exp 0.996 (0.946-1.047) 0.863
MAG_exp 0.986 (0.787-1.234) 0.9
Hazard Ratios
COADREAD
HR (95%CI) P-value
SIGLEC11 1.989 (0.901-4.389) 0.089
SIGLEC16 1.398 (0.956-2.045) 0.084
SIGLEC8 1.179 (0.999-1.393) 0.052
SIGLEC6 1.144 (0.789-1.66) 0.478
MAG 1.064 (0.264-4.296) 0.93
CD33 1.056 (0.873-1.277) 0.575
CD22 1.054 (1.02-1.09) 0.002
SIGLEC1 1.041 (1.004-1.078) 0.029
SIGLEC7 1.021 (1.004-1.038) 0.014
SIGLEC15 1.021 (0.929-1.122) 0.663
SIGLEC9 1.014 (0.957-1.074) 0.644
SIGLEC10 1.013 (0.975-1.053) 0.514
SIGLEC14 0.983 (0.922-1.049) 0.608
SIGLEC5 0.773 (0.265-2.252) 0.637
Hazard Ratios
STAD
HR (95%CI) P-value
SIGLEC5_exp 2.825 (1.55-5.15) 0.001
MAG_exp 1.414 (1.082-1.848) 0.011
SIGLEC6_exp 1.089 (1.007-1.177) 0.032
SIGLEC7_exp 1.069 (1.007-1.135) 0.028
SIGLEC9_exp 1.052 (0.993-1.115) 0.087
SIGLEC8_exp 1.039 (0.993-1.088) 0.098
SIGLEC14_exp 1.017 (0.984-1.051) 0.309
SIGLEC1_exp 1.013 (0.997-1.029) 0.103
CD33_exp 1.007 (0.965-1.051) 0.743
SIGLEC15_exp 1.003 (0.976-1.031) 0.842
SIGLEC10_exp 1 (0.991-1.008) 0.917
CD22_exp 1 (0.987-1.014) 0.963
SIGLEC11_exp 0.966 (0.745-1.254) 0.796
SIGLEC16_exp 0.915 (0.731-1.145) 0.437
Hazard Ratios
UCEC
HR (95%CI) P-value
MAG_exp 1.233 (1.042-1.458) 0.015
SIGLEC11_exp 1.114 (0.97-1.28) 0.126
CD33_exp 1.084 (1.013-1.161) 0.02
SIGLEC16_exp 1.083 (0.966-1.214) 0.17
SIGLEC7_exp 1.045 (0.97-1.126) 0.244
SIGLEC9_exp 1.032 (0.996-1.07) 0.083
SIGLEC5_exp 1.026 (1.005-1.047) 0.014
SIGLEC6_exp 1.018 (1.008-1.028) 0
SIGLEC1_exp 1.008 (0.996-1.02) 0.196
SIGLEC14_exp 1.003 (0.998-1.007) 0.267
SIGLEC8_exp 0.996 (0.916-1.083) 0.922
CD22_exp 0.994 (0.981-1.007) 0.332
SIGLEC15_exp 0.989 (0.976-1.002) 0.105
SIGLEC10_exp 0.986 (0.968-1.004) 0.129
Hazard Ratios
ESCA
HR (95%CI) P-value
SIGLEC5_exp 3.857 (0.407-36.508) 0.239
MAG_exp 1.061 (0.593-1.898) 0.842
CD22_exp 0.99 (0.952-1.03) 0.616
SIGLEC1_exp 0.99 (0.939-1.044) 0.718
SIGLEC15_exp 0.986 (0.931-1.044) 0.631
SIGLEC8_exp 0.985 (0.836-1.16) 0.852
SIGLEC10_exp 0.983 (0.926-1.043) 0.561
CD33_exp 0.978 (0.658-1.455) 0.914
SIGLEC9_exp 0.976 (0.832-1.145) 0.767
SIGLEC7_exp 0.967 (0.758-1.233) 0.787
SIGLEC16_exp 0.949 (0.538-1.673) 0.856
SIGLEC14_exp 0.937 (0.842-1.041) 0.226
SIGLEC11_exp 0.89 (0.469-1.689) 0.721
SIGLEC6_exp 0.881 (0.659-1.177) 0.391
Hazard Ratios
GBM
HR (95%CI) P-value
SIGLEC6_exp 3.581 (0.333-38.536) 0.293
SIGLEC5_exp 1.265 (0.678-2.36) 0.461
SIGLEC15_exp 1.202 (0.759-1.902) 0.433
CD22_exp 1.026 (0.95-1.108) 0.513
CD33_exp 1.024 (0.982-1.066) 0.266
SIGLEC7_exp 1.018 (0.991-1.047) 0.196
SIGLEC16_exp 1.014 (0.912-1.127) 0.796
SIGLEC9_exp 1.013 (0.997-1.028) 0.107
SIGLEC14_exp 1.005 (0.993-1.017) 0.408
SIGLEC1_exp 1.003 (0.996-1.01) 0.403
SIGLEC10_exp 1.002 (0.997-1.008) 0.392
MAG_exp 1 (0.999-1.001) 0.954
SIGLEC8_exp 0.996 (0.988-1.003) 0.249
SIGLEC11_exp 0.991 (0.919-1.069) 0.817
Hazard Ratios
PAAD
HR (95%CI) P-value
CD33_exp 1.022 (0.898-1.163) 0.74
SIGLEC6_exp 1.015 (0.971-1.061) 0.505
SIGLEC7_exp 1.013 (0.936-1.096) 0.742
SIGLEC15_exp 1.008 (0.981-1.036) 0.545
SIGLEC9_exp 1.006 (0.955-1.059) 0.834
SIGLEC1_exp 1.005 (0.982-1.029) 0.648
SIGLEC10_exp 1.001 (0.975-1.027) 0.959
CD22_exp 0.991 (0.974-1.008) 0.303
SIGLEC14_exp 0.988 (0.951-1.027) 0.547
SIGLEC8_exp 0.987 (0.94-1.035) 0.583
SIGLEC16_exp 0.97 (0.735-1.281) 0.832
SIGLEC11_exp 0.96 (0.688-1.339) 0.81
SIGLEC5_exp 0.847 (0.277-2.592) 0.771
MAG_exp 0.593 (0.279-1.258) 0.173
Hazard Ratios
CESC
HR (95%CI) P-value
MAG_exp 1.989 (1.216-3.254) 0.006
SIGLEC11_exp 1.029 (0.779-1.358) 0.841
SIGLEC14_exp 0.994 (0.92-1.075) 0.881
SIGLEC15_exp 0.983 (0.892-1.084) 0.735
SIGLEC16_exp 0.98 (0.696-1.38) 0.907
SIGLEC9_exp 0.959 (0.849-1.083) 0.499
SIGLEC1_exp 0.951 (0.904-1.001) 0.054
SIGLEC10_exp 0.944 (0.888-1.004) 0.065
CD22_exp 0.915 (0.742-1.129) 0.407
SIGLEC8_exp 0.809 (0.656-0.997) 0.047
SIGLEC7_exp 0.793 (0.618-1.017) 0.068
CD33_exp 0.686 (0.482-0.976) 0.036
SIGLEC5_exp 0.65 (0.05-8.522) 0.743
SIGLEC6_exp 0.645 (0.29-1.435) 0.283
Hazard Ratios

B


T dysfunction value in core dataset
Normalized Z score calling from Cox-PH regression in Immunotherapy dataset
Normalized Z score calling from selection log2FC in CRISPR Screen dataset
Normalized expression value from immuno-suppressive cell types
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
E-MTAB-179
GSE12417_GPL570
METABRIC
TCGAEndometrial
TCGAMelanoma
ICB_Braun2020_PD1
ICB_Gide2019_PD1+CTLA4
ICB_Gide2019_PD1
ICB_Hugo2016_PD1
ICB_Lauss2017_ACT
ICB_Liu2019_PD1 lpi_Naive
ICB_Liu2019_PD1 lpi_Prog
ICB_Mariathasan2018_PDL1
ICB_Miao2018_ICB
ICB_Nathanson2017_CTLA4
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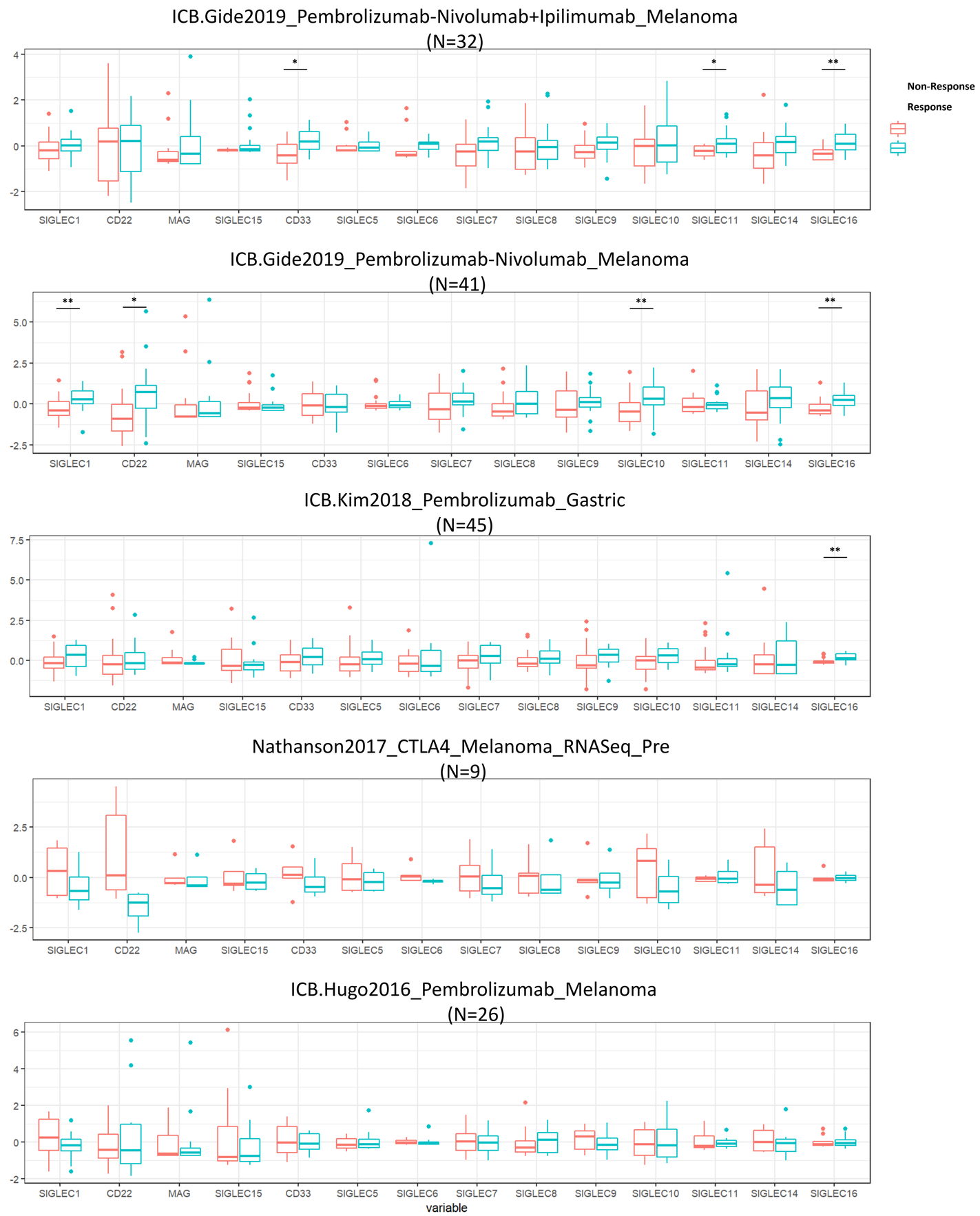
ICB_Riaz2017_PD1 lpi_Prog
ICB_VanAllen2015_CTLA4
ICB_Zhao2019_PD1
Freeman 2019 NK
Freeman 2019 OT1
Kearney2018 NK_10
Kearney2018 NK_20
Kearney2018 T_IgG
Kearney2018 T_PD1
Pan 2018 OT1
Pan 2018 Pmel1
Patel 2017 1
Patel 2017 2
Pech 2019 NK_E/T=1
Pech 2019 NK_E/T=2.5
Shifrut 2018 pilotAverage
Shifrut 2018 Average
Vredevoogd 2019 MART1
CAF FAP
MDSC
TAM M2
MAG
SIGLEC9
SIGLEC10
CD22
SIGLEC14
SIGLEC11
SIGLEC8
SIGLEC5
CD33
SIGLEC7
SIGLEC16
SIGLEC6
SIGLEC15
SIGLEC1

C


ICB.Gide2019_Pembrolizumab-Nivolumab+Ipilimumab_Melanoma
(N=32)
Non-Response
Response
SIGLEC1 CD22 MAG SIGLEC15 CD33 SIGLEC5 SIGLEC6 SIGLEC7 SIGLEC8 SIGLEC9 SIGLEC10 SIGLEC11 SIGLEC14 SIGLEC16
ICB.Gide2019_Pembrolizumab-Nivolumab_Melanoma
(N=41)
SIGLEC1 CD22 MAG SIGLEC15 CD33 SIGLEC6 SIGLEC7 SIGLEC8 SIGLEC9 SIGLEC10 SIGLEC11 SIGLEC14 SIGLEC16
ICB.Kim2018_Pembrolizumab_Gastric
(N=45)
SIGLEC1 CD22 MAG SIGLEC15 CD33 SIGLEC5 SIGLEC6 SIGLEC7 SIGLEC8 SIGLEC9 SIGLEC10 SIGLEC11 SIGLEC14 SIGLEC16
Nathanson2017_CTLA4_Melanoma_RNASeq_Pre
(N=9)
SIGLEC1 CD22 MAG SIGLEC15 CD33 SIGLEC5 SIGLEC6 SIGLEC7 SIGLEC8 SIGLEC9 SIGLEC10 SIGLEC11 SIGLEC14 SIGLEC16
ICB.Hugo2016_Pembrolizumab_Melanoma
(N=26)
SIGLEC1 CD22 MAG SIGLEC15 CD33 SIGLEC5 SIGLEC6 SIGLEC7 SIGLEC8 SIGLEC9 SIGLEC10 SIGLEC11 SIGLEC14 SIGLEC16
variable