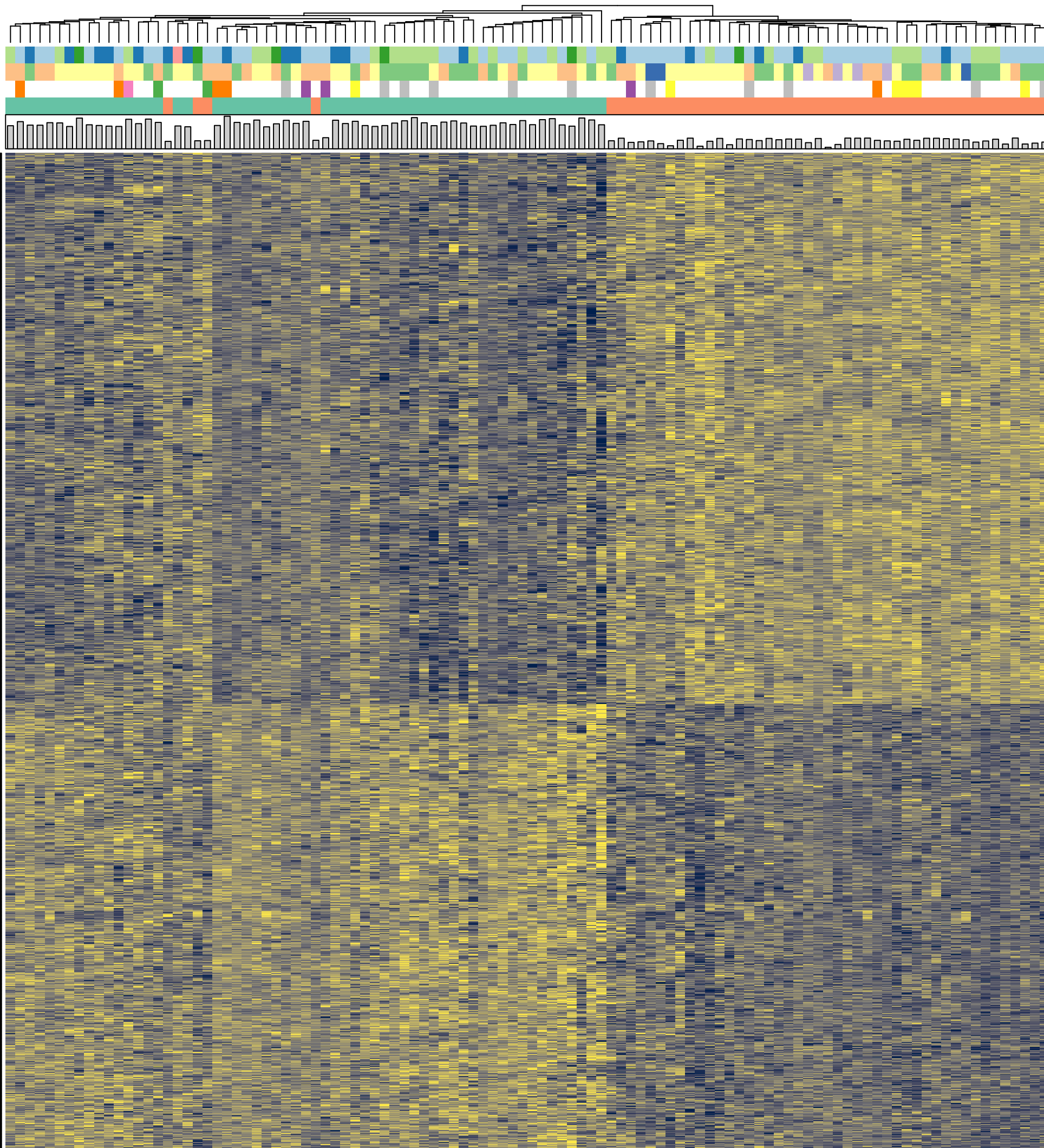


# Significant Gene Expression for 17-AAG (Tanespimycin) Response (n=106)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CBFB-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 Complex

**Mclust**  
 Cluster1  
 Cluster2

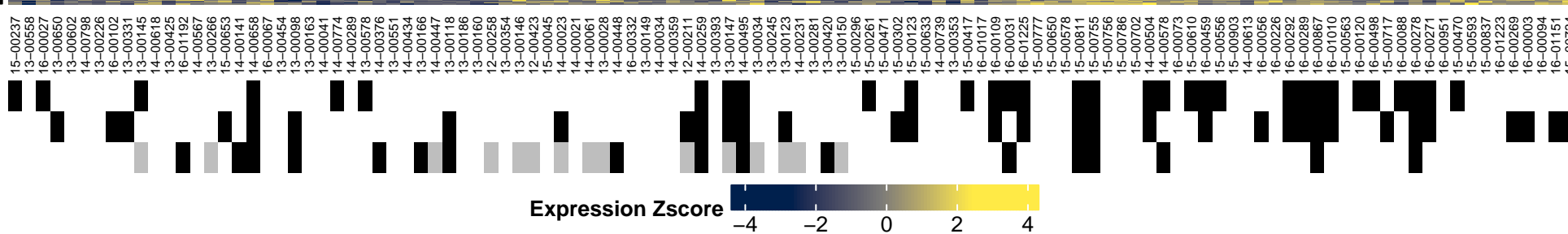
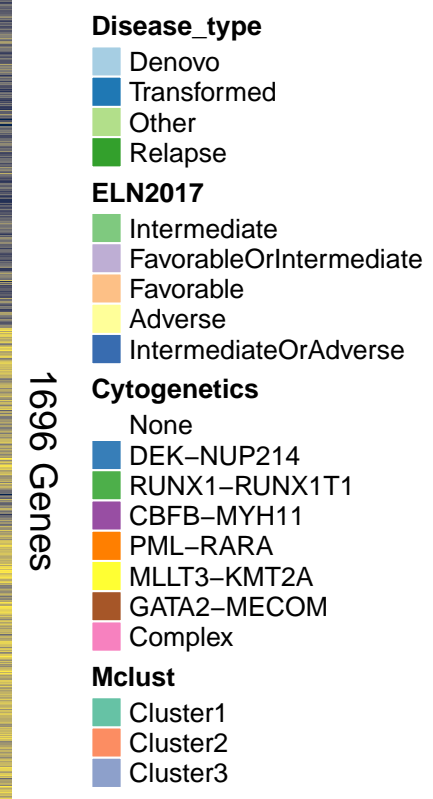
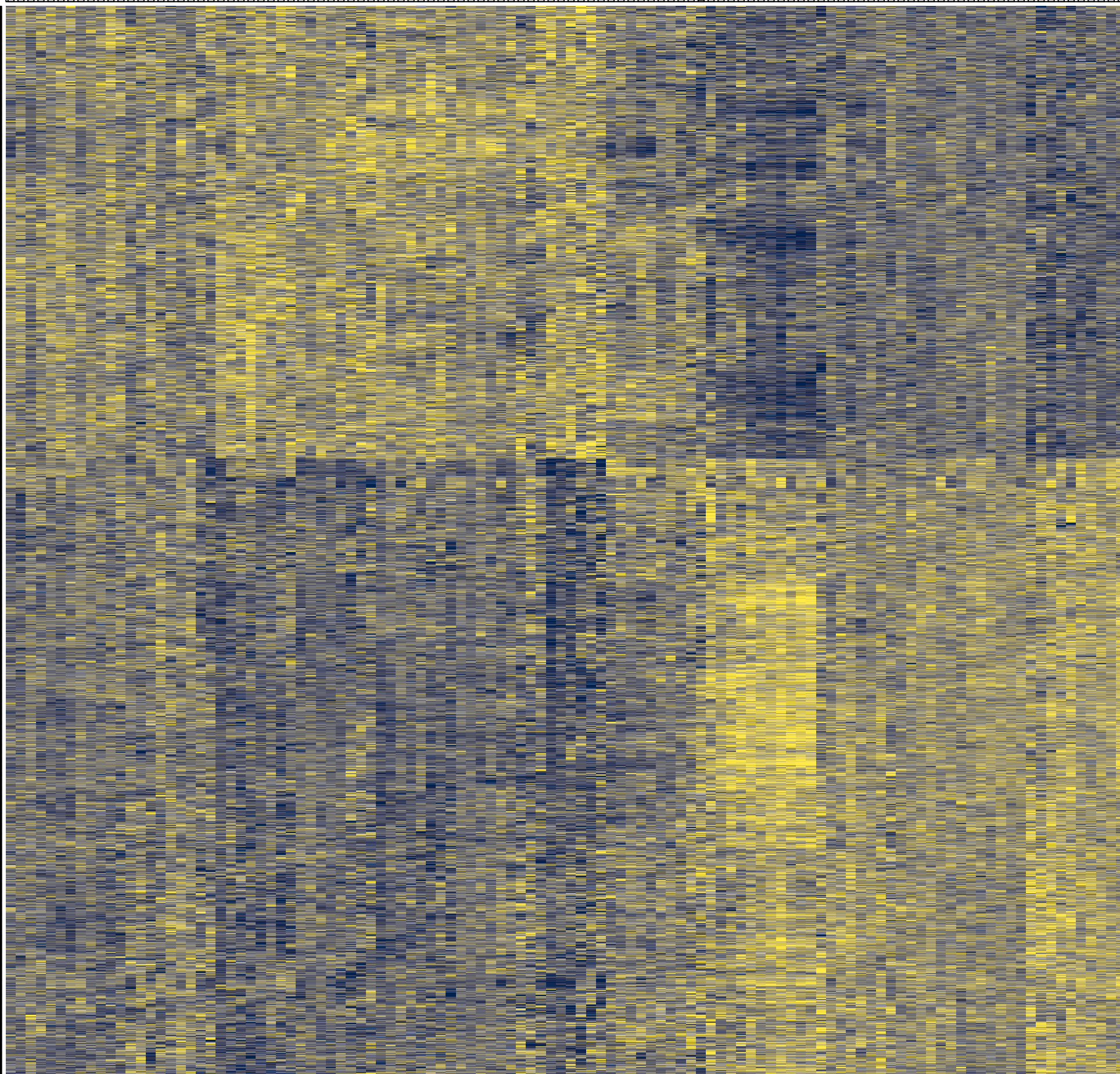
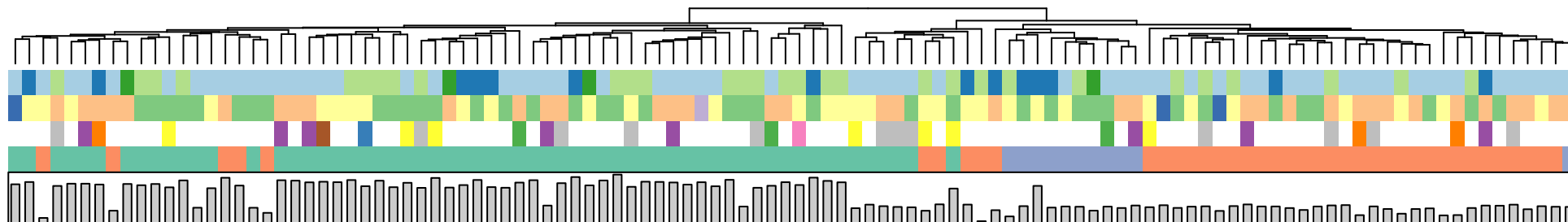
2134 Genes

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16-00056  
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15-00616  
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15-00175  
15-00470  
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14-00891  
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15-00123

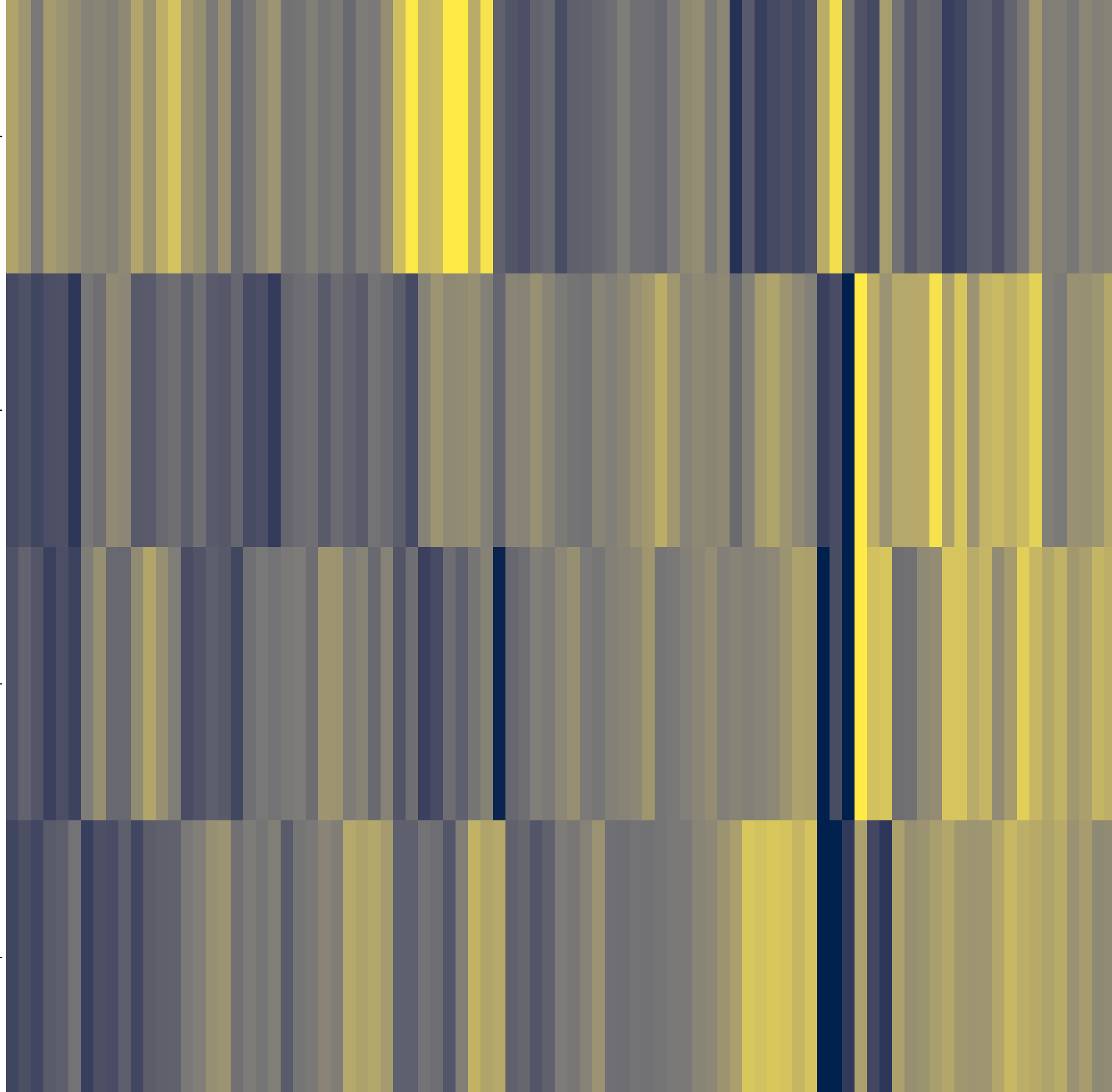
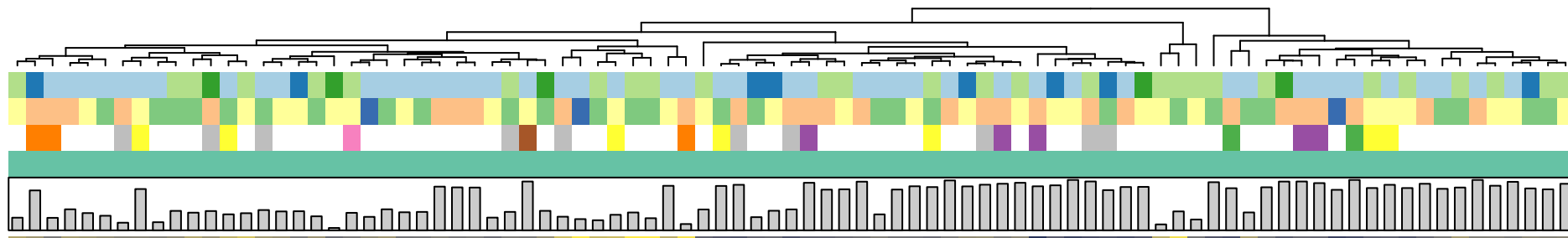
FLT3\_ITD  
NPM1  
DNMT3A

Expression Zscore -4 -2 0 2 4

# Significant Gene Expression for A-674563 Response (n=112)



# Significant Gene Expression for ABT-737 Response (n=89)



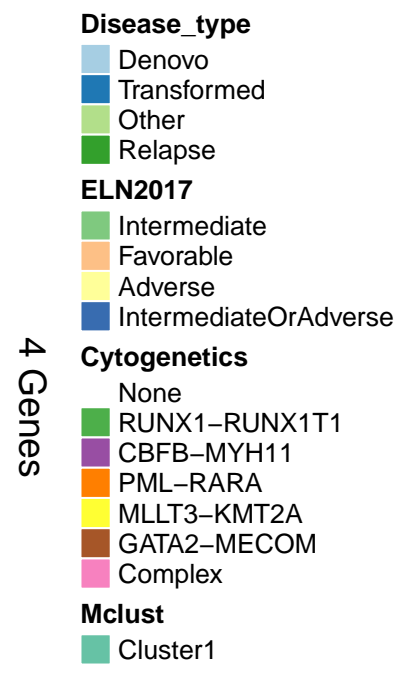
Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

USP20

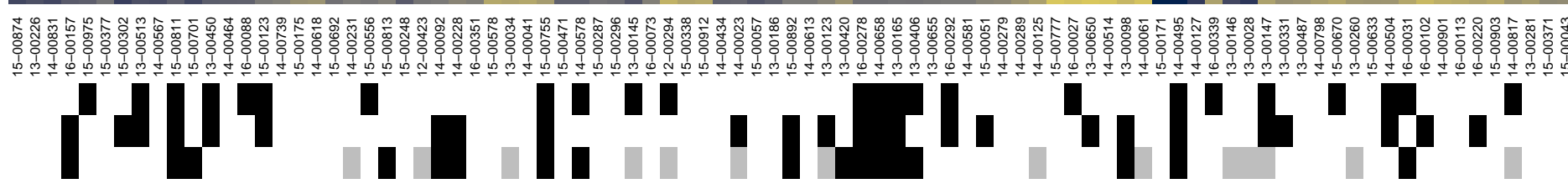
DEF8

CTNNA1

BIN2



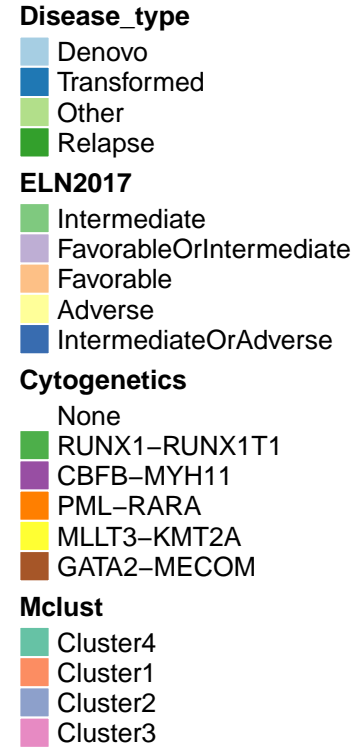
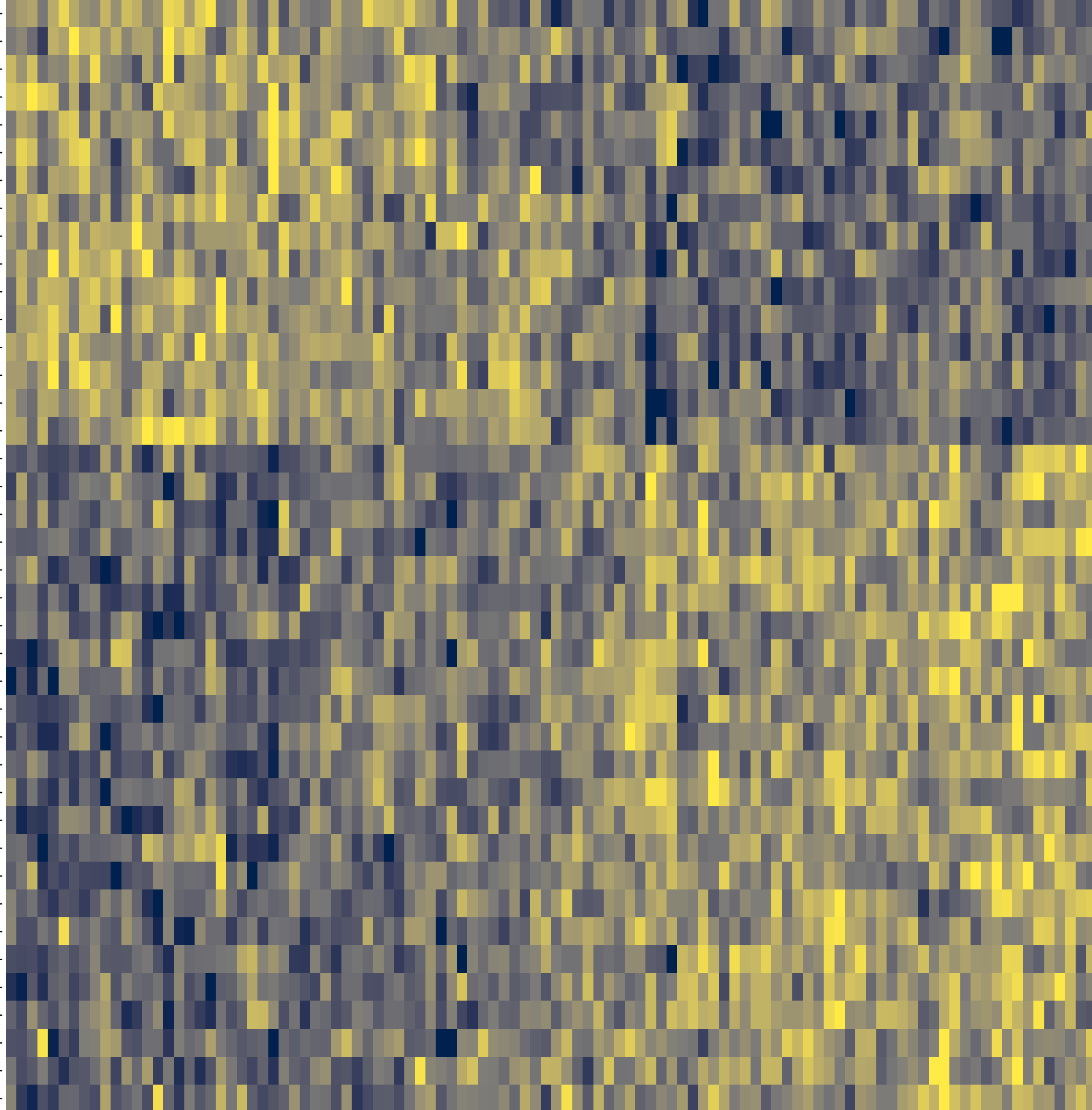
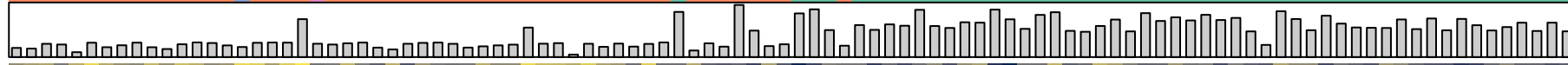
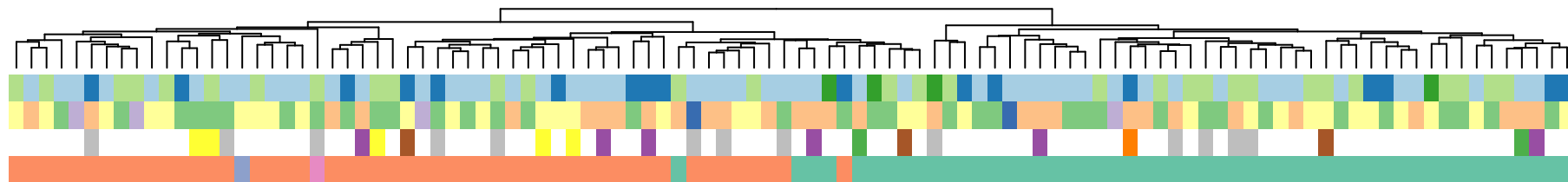
4 Genes



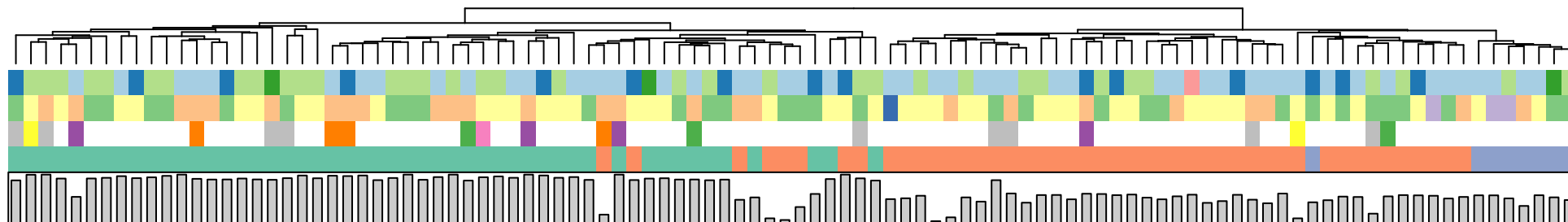
FLT3\_ITD  
NPM1  
DNMT3A



# Significant Gene Expression for AT7519 Response (n=104)



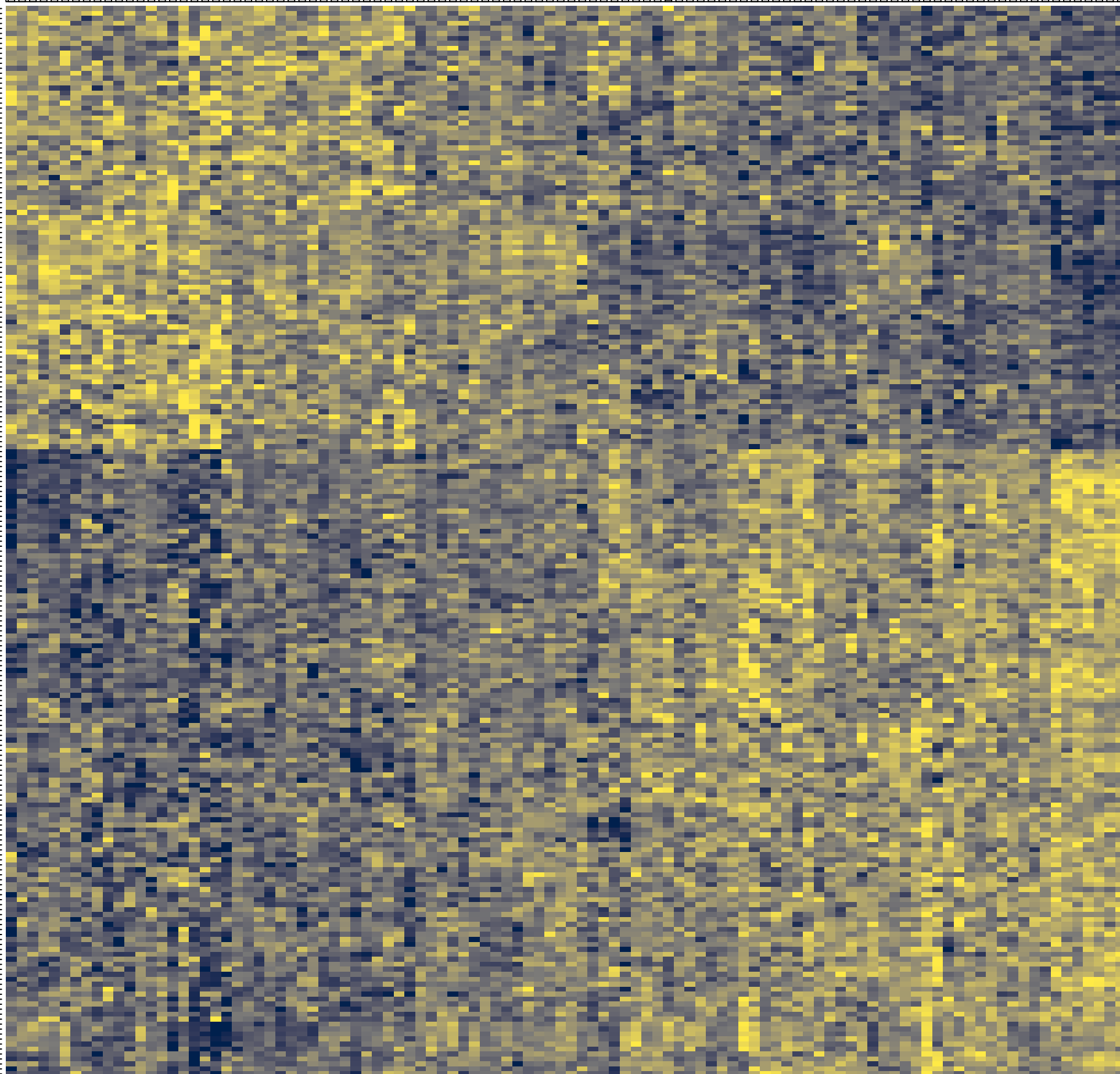
# Significant Gene Expression for AZD1480 Response (n=104)



Disease\_type  
 ELN2017  
 Cytogenetics  
 Mclust  
 AUC

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed  
**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse  
**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CBF-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 Complex  
**Mclust**  
 Cluster2  
 Cluster1  
 Cluster3

215 Genes

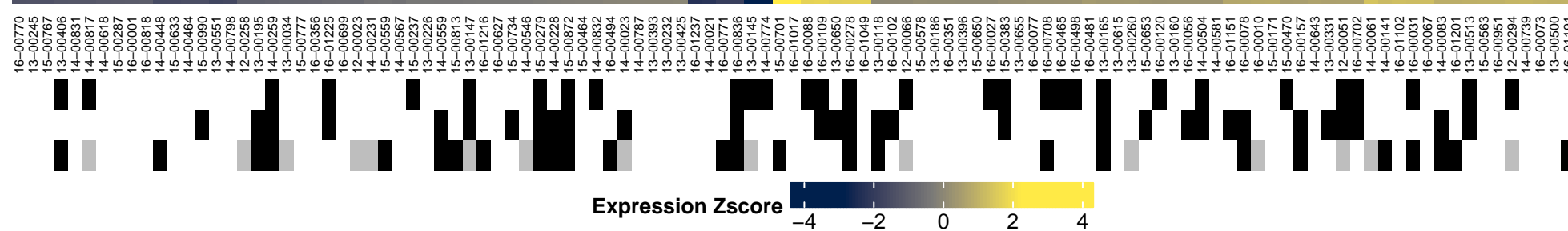
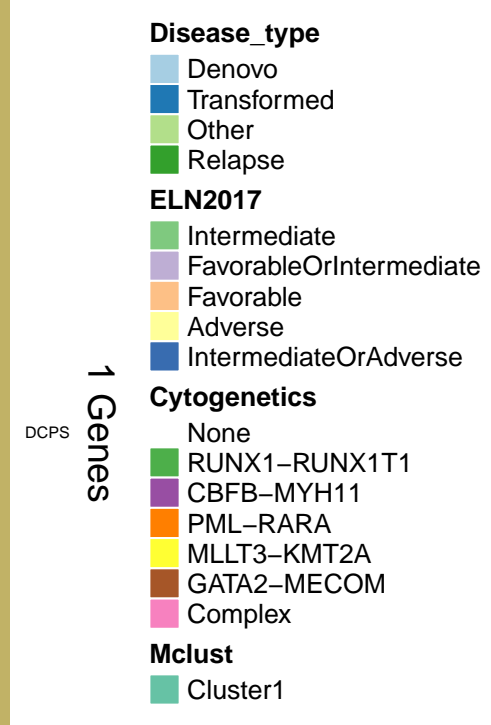
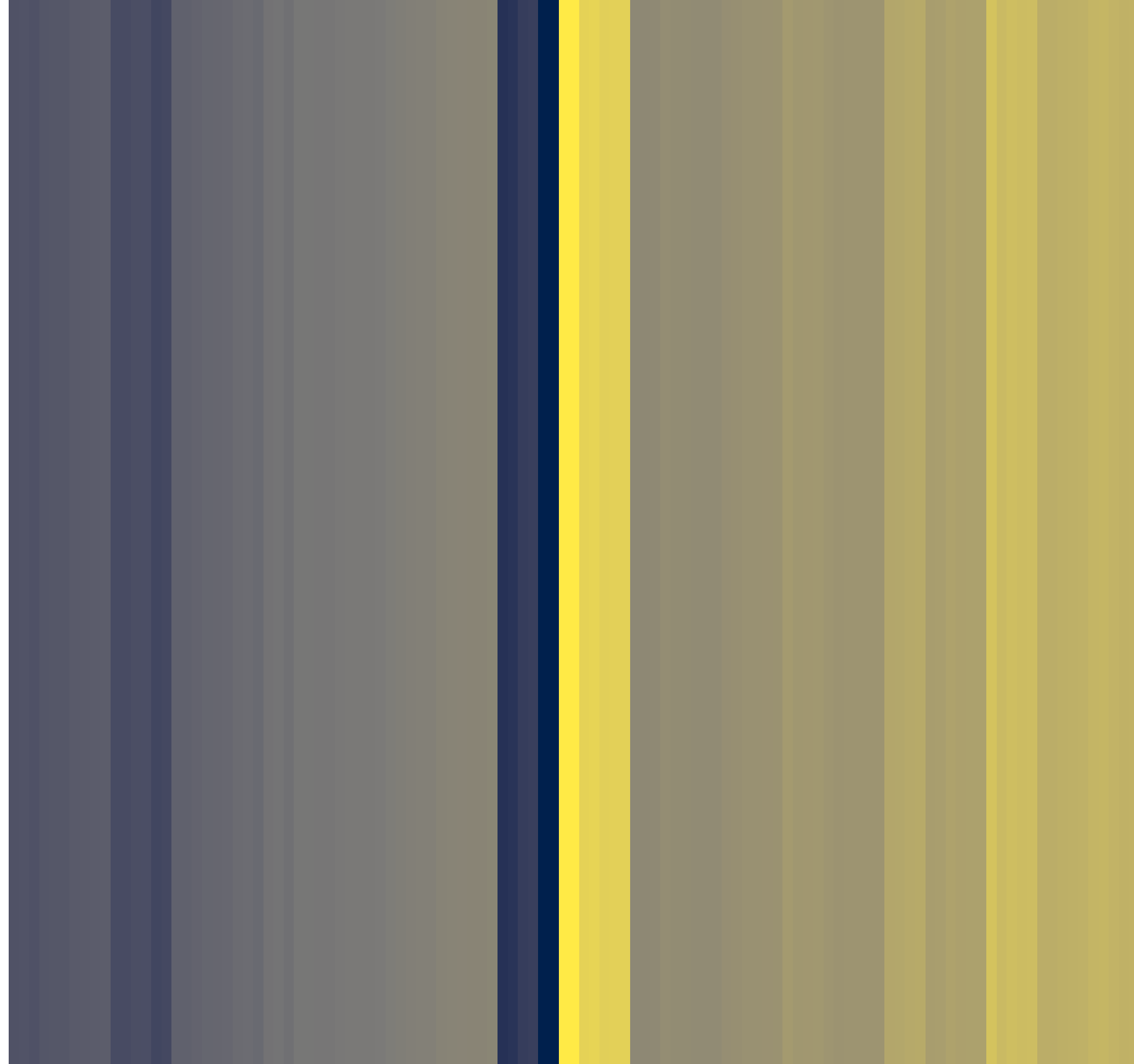
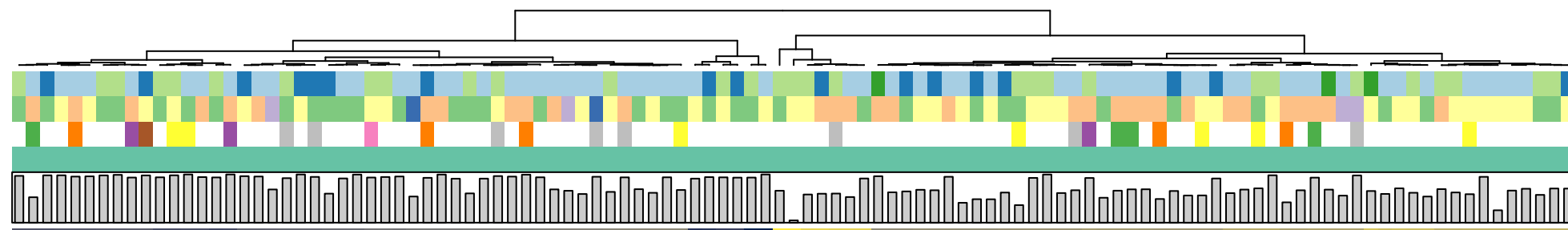


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 13-00147  
 16-01237  
 16-00882  
 16-00770  
 16-00073  
 16-00220  
 16-00410  
 14-00228  
 14-00021  
 16-01017  
 15-00171  
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 14-00127  
 13-00420  
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 14-00781  
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 14-00231  
 14-00289  
 16-00115  
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 12-00258  
 16-00771  
 16-00951  
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 16-00120  
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 15-00755

FLT3\_ITD  
 NPM1  
 DNMT3A

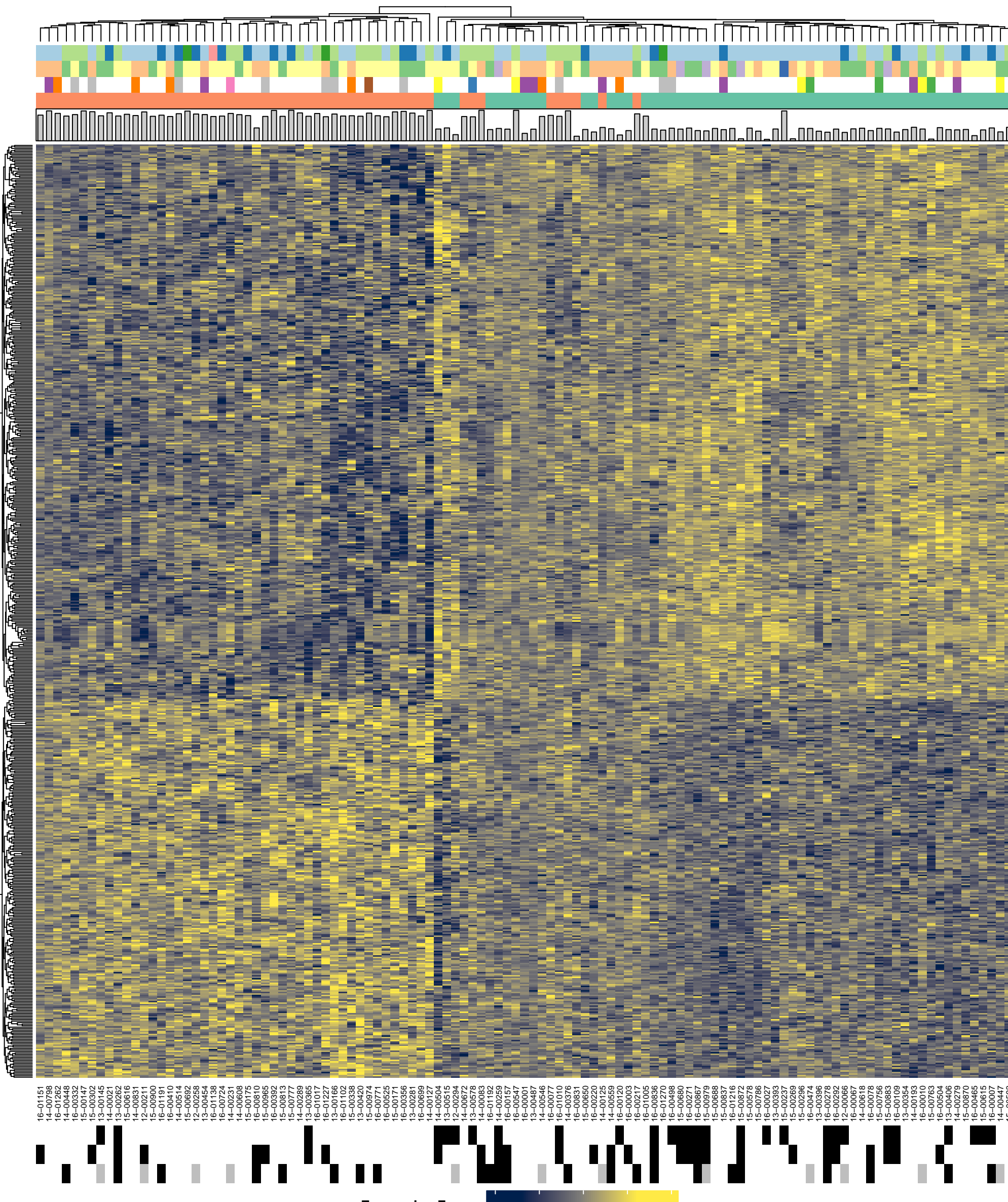


# Significant Gene Expression for Alistertib (MLN8237) Response (n=111)



16-00770  
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14-00618  
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16-00818  
14-00448  
15-00633  
14-00464  
15-00990  
13-00551  
14-00798  
12-00258  
13-00195  
14-00259  
13-00034  
15-00777  
16-00356  
16-01225  
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12-00231  
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13-00559  
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15-00237  
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14-00559  
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16-01201  
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16-00951  
12-00294  
14-00739  
16-00073  
13-00500  
16-01191

# Significant Gene Expression for Axitinib (AG-013736) Response (n=113)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 DEK-NUP214  
 RUNX1-RUNX1T1  
 CBFβ-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex

**Mclust**  
 Cluster1  
 Cluster2

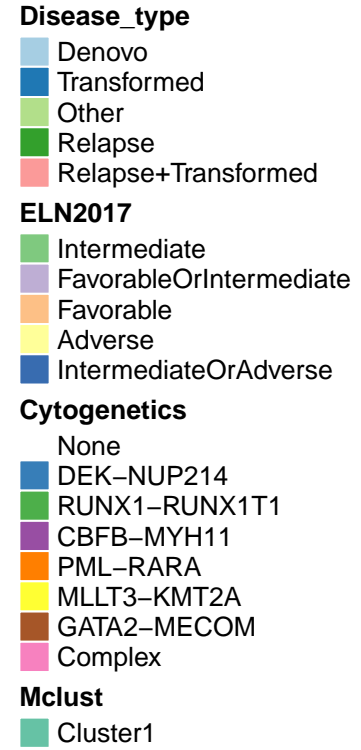
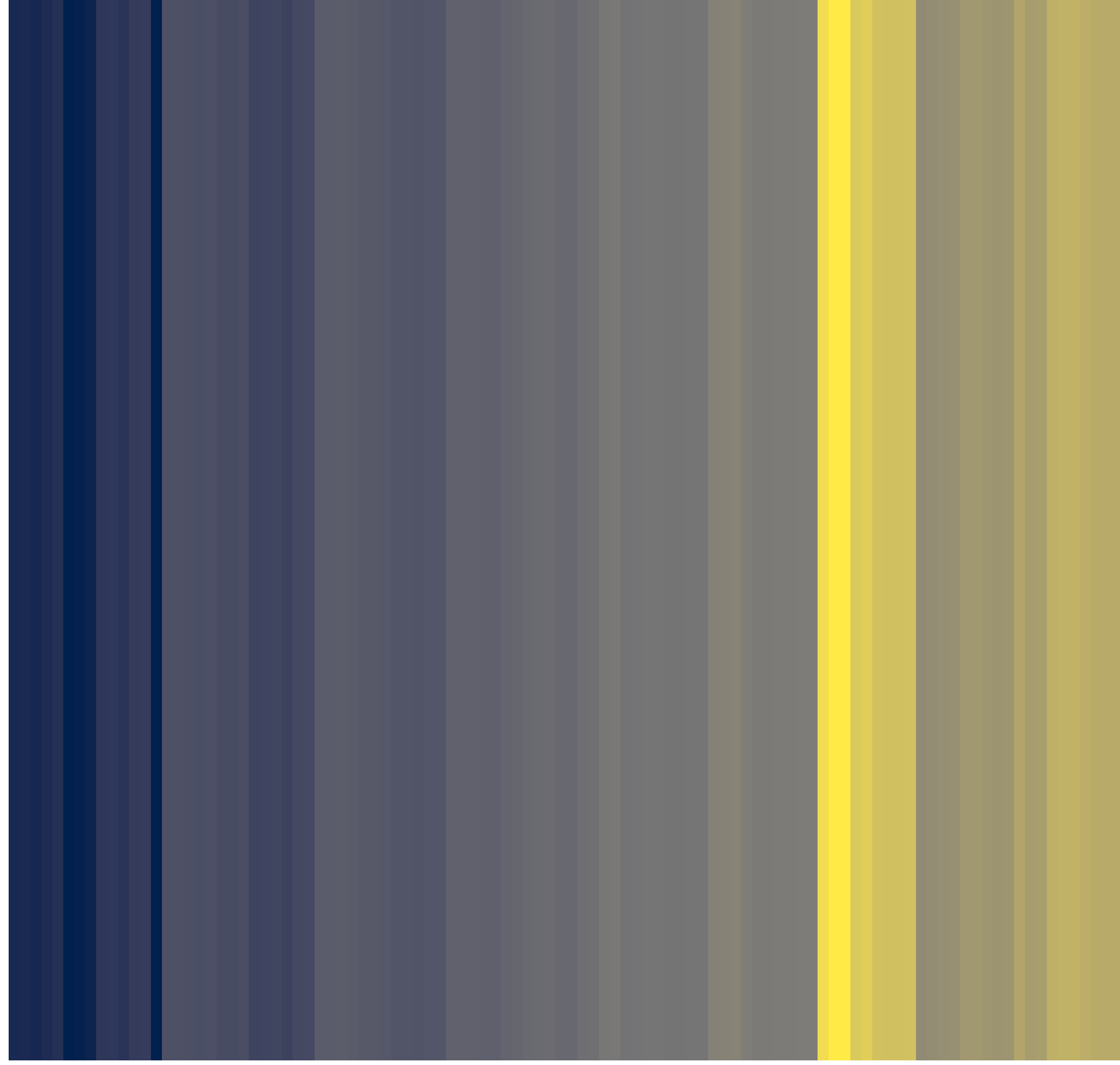
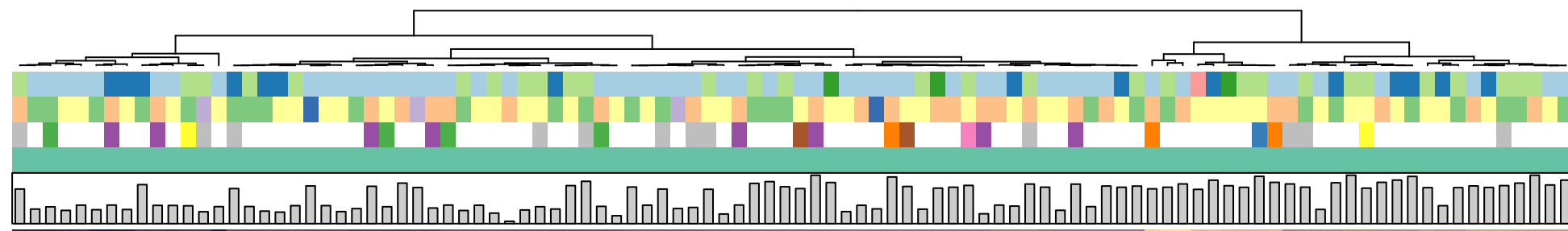
616 Genes

Expression Zscore -4 -2 0 2 4

FLT3\_ITD  
NPM1  
DNMT3A

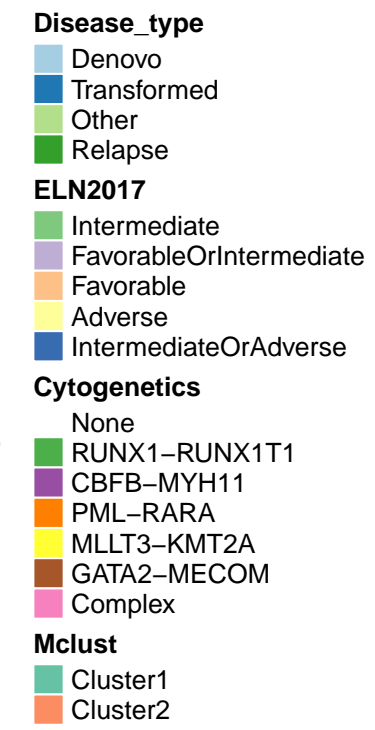
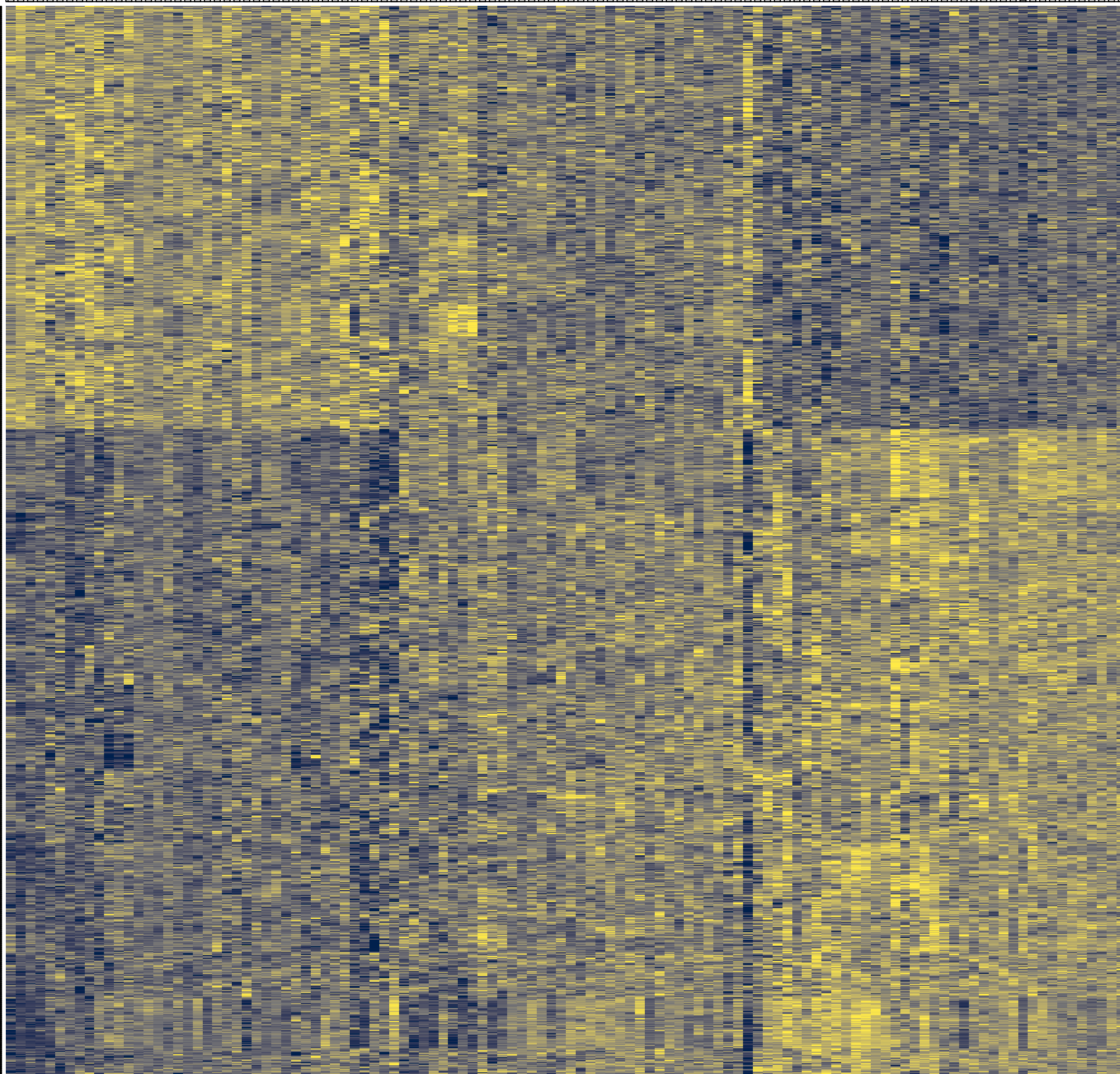
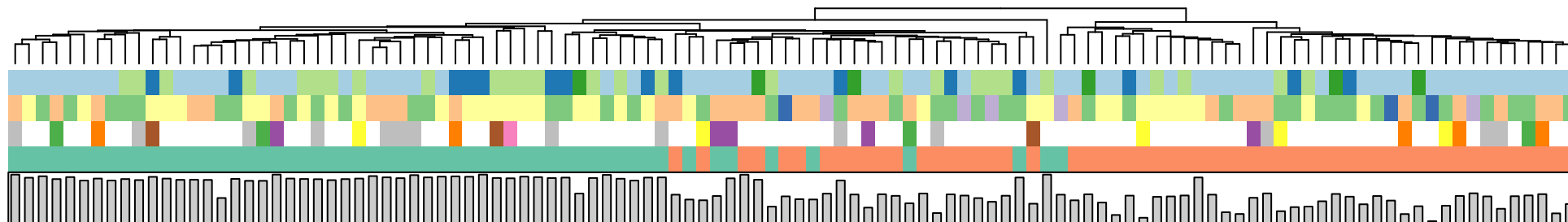
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13-00145  
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14-00831  
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# Significant Gene Expression for BEZ235 Response (n=102)

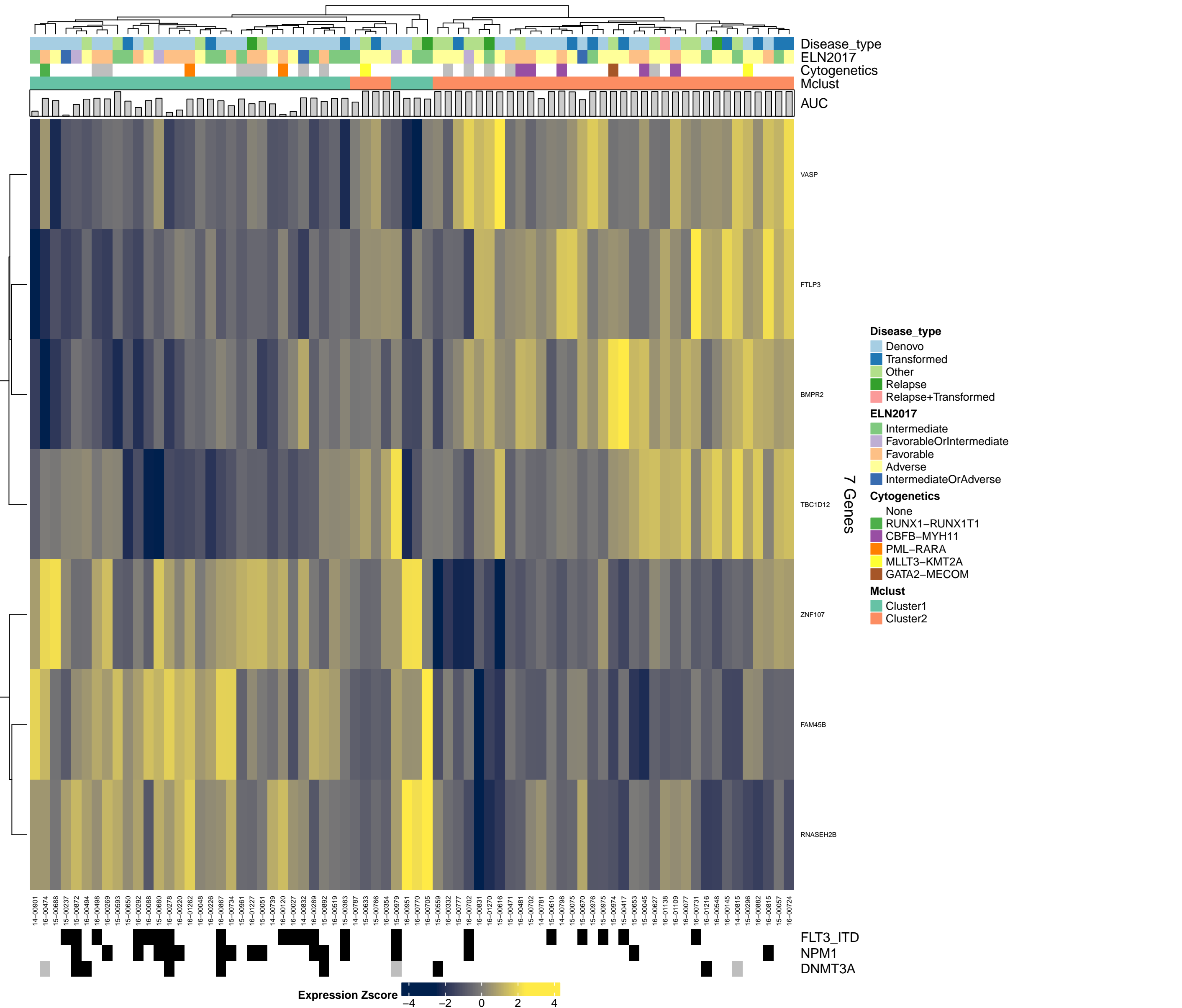




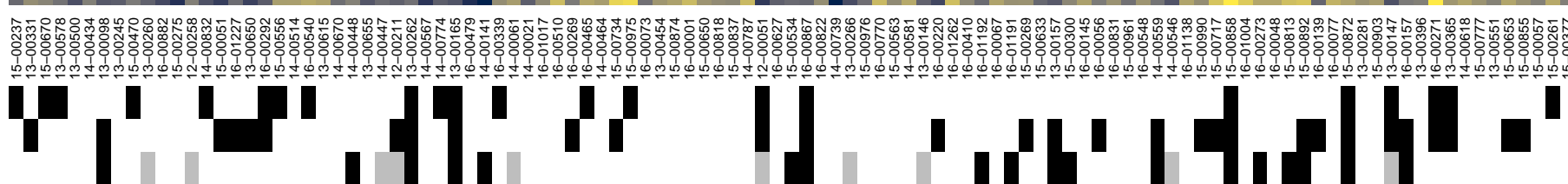
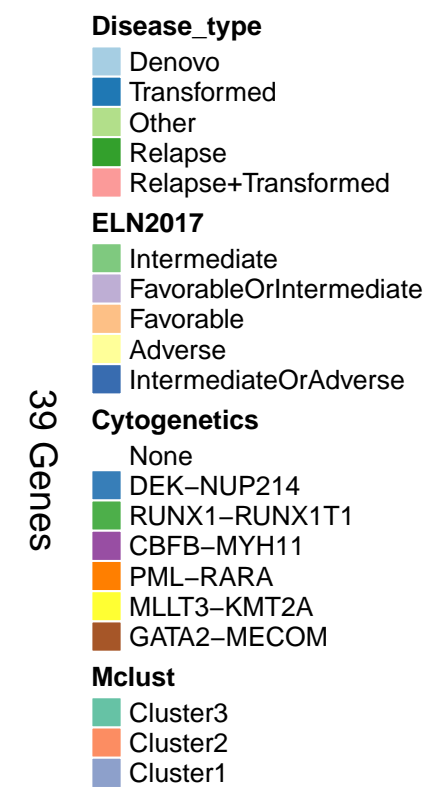
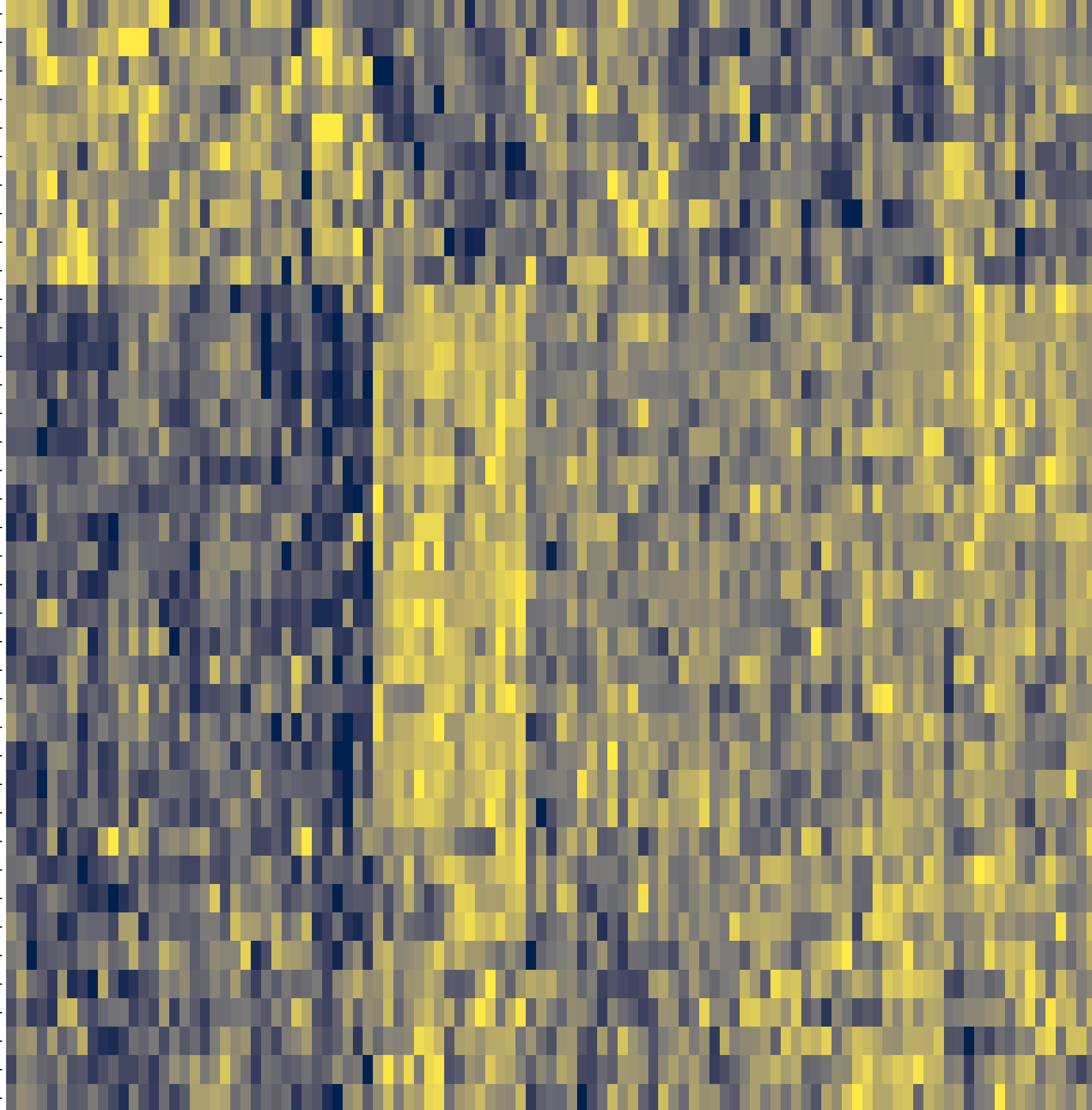
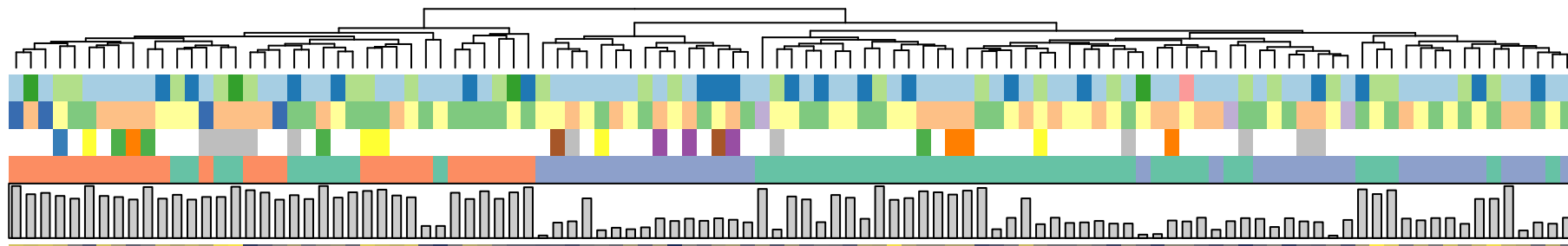
Significant Gene Expression for Barasertib (AZD1152-HQPA) Response (n=114)



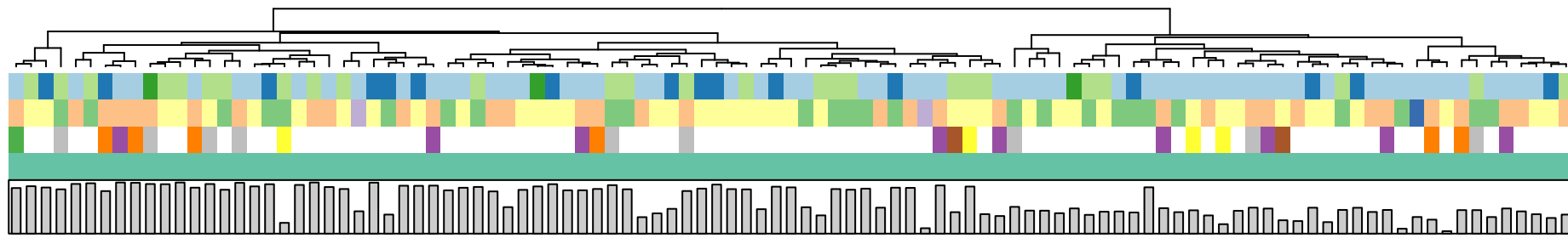
# Significant Gene Expression for Bay 11-7085 Response (n=74)



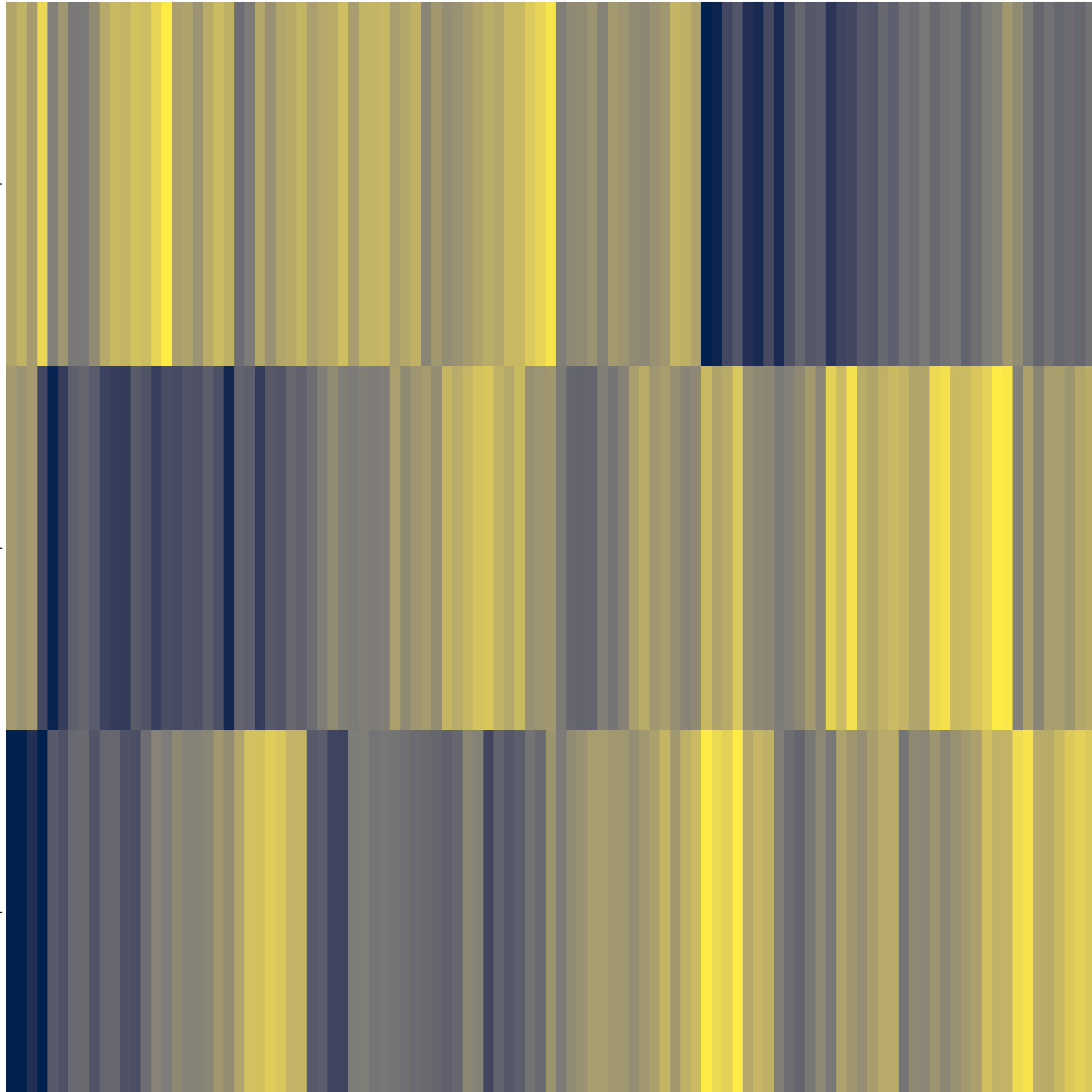
# Significant Gene Expression for Bortezomib (Velcade) Response (n=107)



# Significant Gene Expression for Bosutinib (SKI-606) Response (n=105)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC



**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CBFβ-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM

**Mclust**  
 Cluster1

MERTK

HLA-DMB

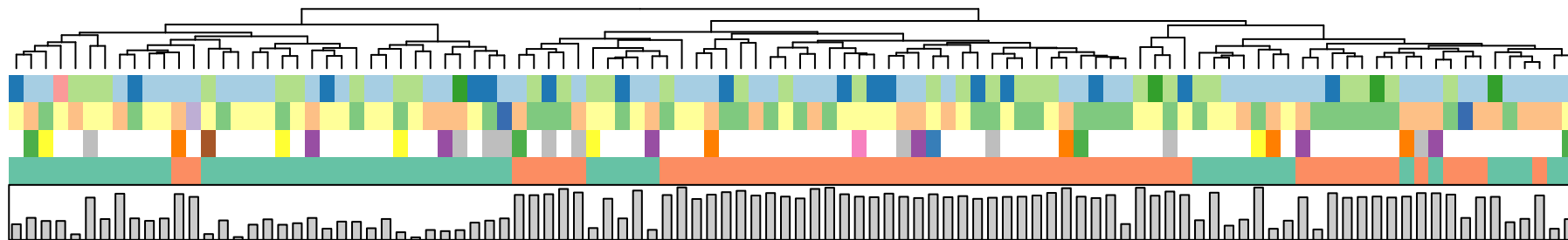
HUS1

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13-00226  
13-00454  
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16-01017  
16-00332  
16-00073  
14-00023  
14-00781  
14-00021  
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14-00083  
16-01151  
15-00171  
15-00680  
15-00777  
15-00650  
16-00220  
16-00882  
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13-00515  
13-00123

FLT3\_ITD  
NPM1  
DNMT3A

Expression Zscore -4 -2 0 2

# Significant Gene Expression for CI-1040 (PD184352) Response (n=106)



Disease\_type  
 ELN2017  
 Cytogenetics  
 Mclust

AUC

BRD1

ZNF274

RP5-1099D15.1

NXPE3

PEX12

RAB33A

AHNAK

MICAL1

POU2F2

MS4A4A

MARCH1

TMEM167A

## Disease\_type

- Denovo
- Transformed
- Other
- Relapse
- Relapse+Transformed

## ELN2017

- Intermediate
- FavorableOrIntermediate
- Favorable
- Adverse
- IntermediateOrAdverse

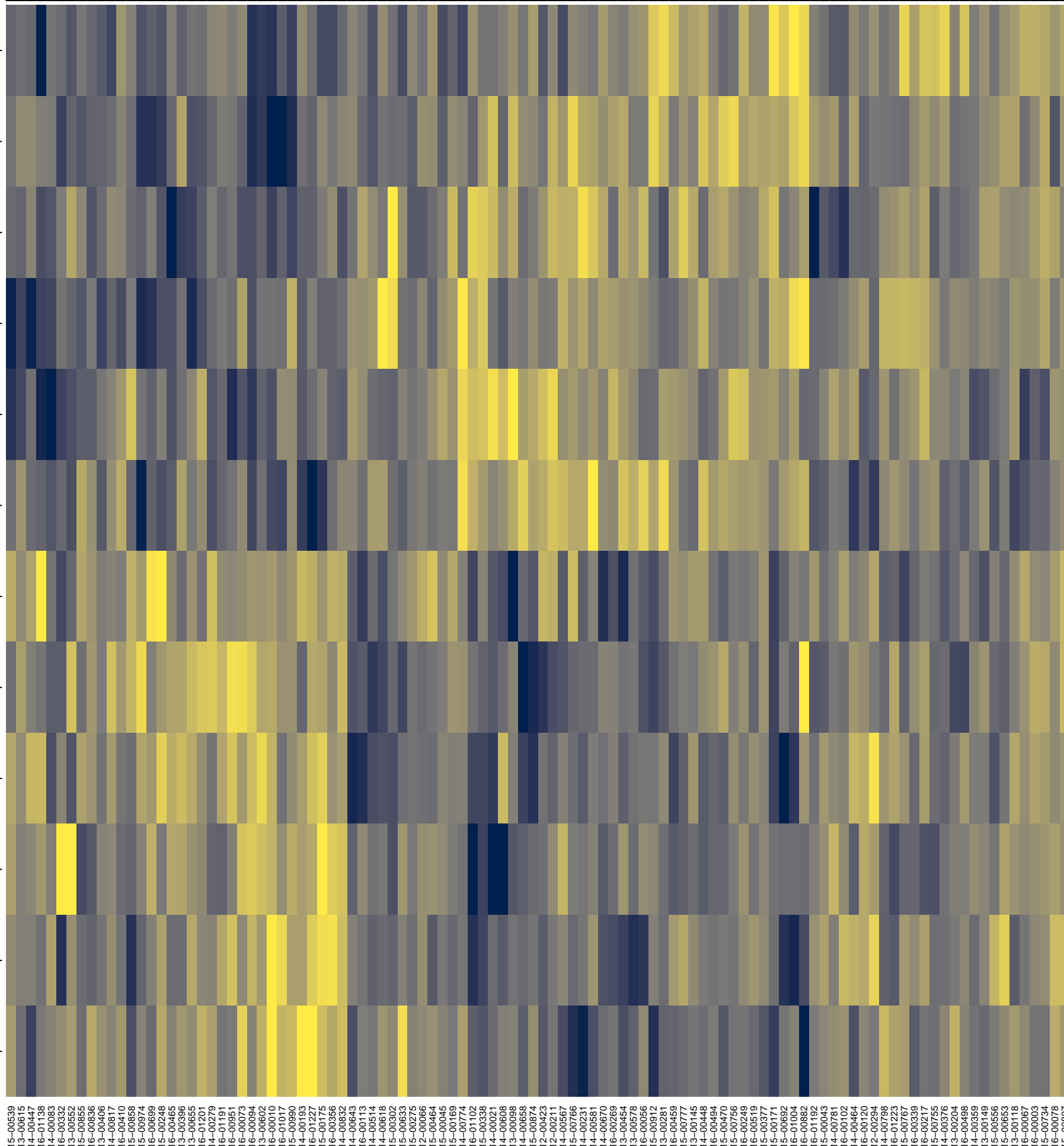
## Cytogenetics

- None
- DEK-NUP214
- RUNX1-RUNX1T1
- CBFB-MYH11
- PML-RARA
- MLLT3-KMT2A
- GATA2-MECOM
- Complex

## Mclust

- Cluster2
- Cluster1

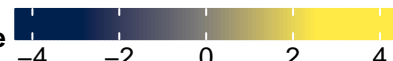
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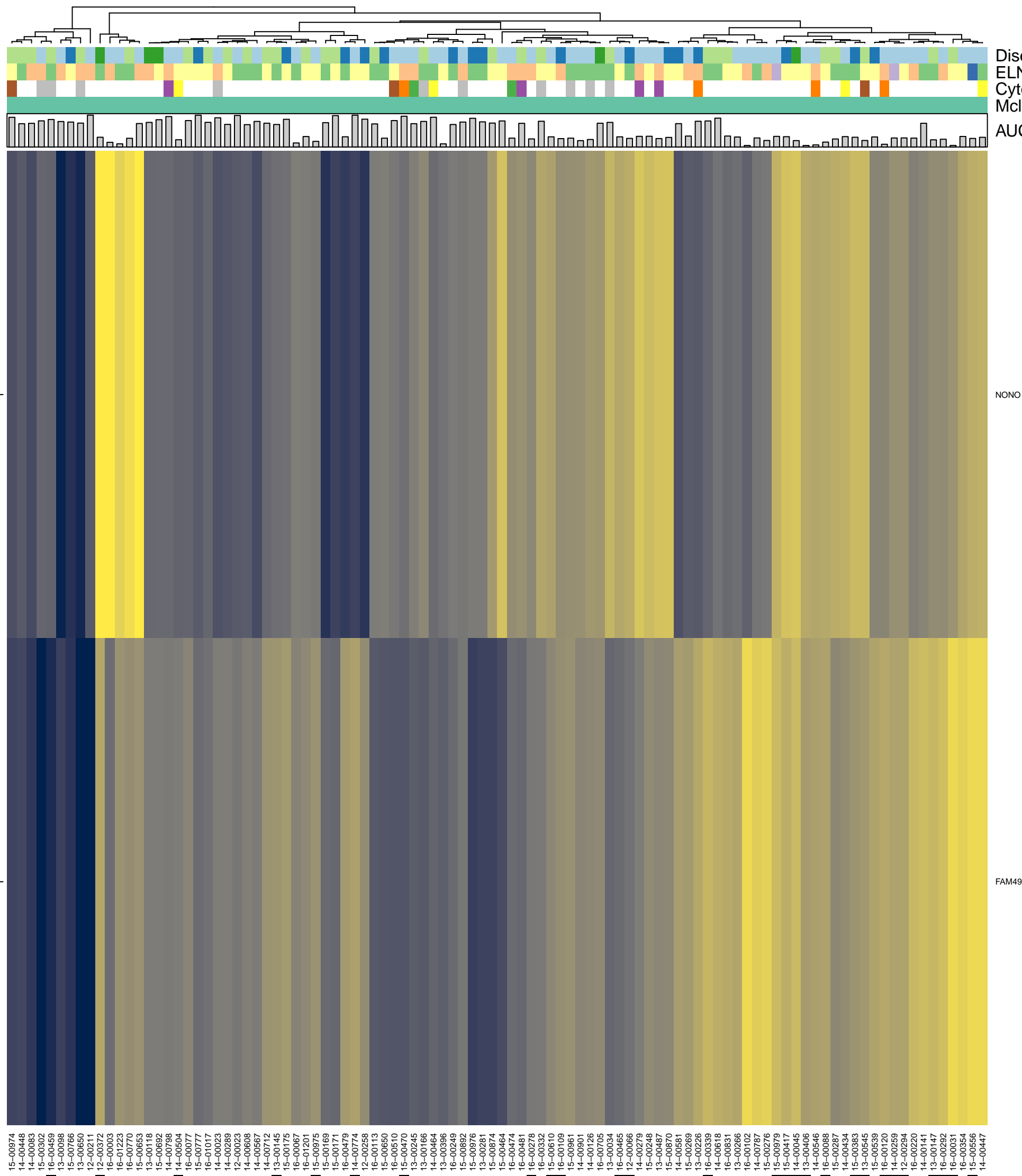
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FLT3\_ITD  
 NPM1  
 DNMT3A

Expression Zscore



# Significant Gene Expression for CYT387 Response (n=100)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

**Disease\_type**

- Denovo
- Transformed
- Other
- Relapse

**ELN2017**

- Intermediate
- FavorableOrIntermediate
- Favorable
- Adverse
- IntermediateOrAdverse

**Cytogenetics**

- None
- RUNX1-RUNX1T1
- CBFB-MYH11
- PML-RARA
- MLL3-KMT2A
- GATA2-MECOM

**Mclust**

- Cluster1

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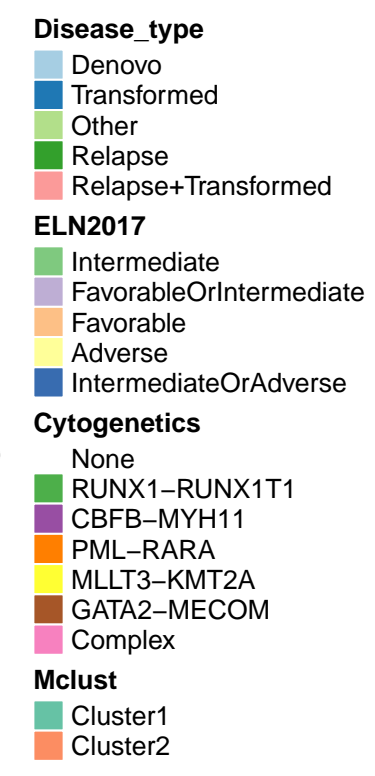
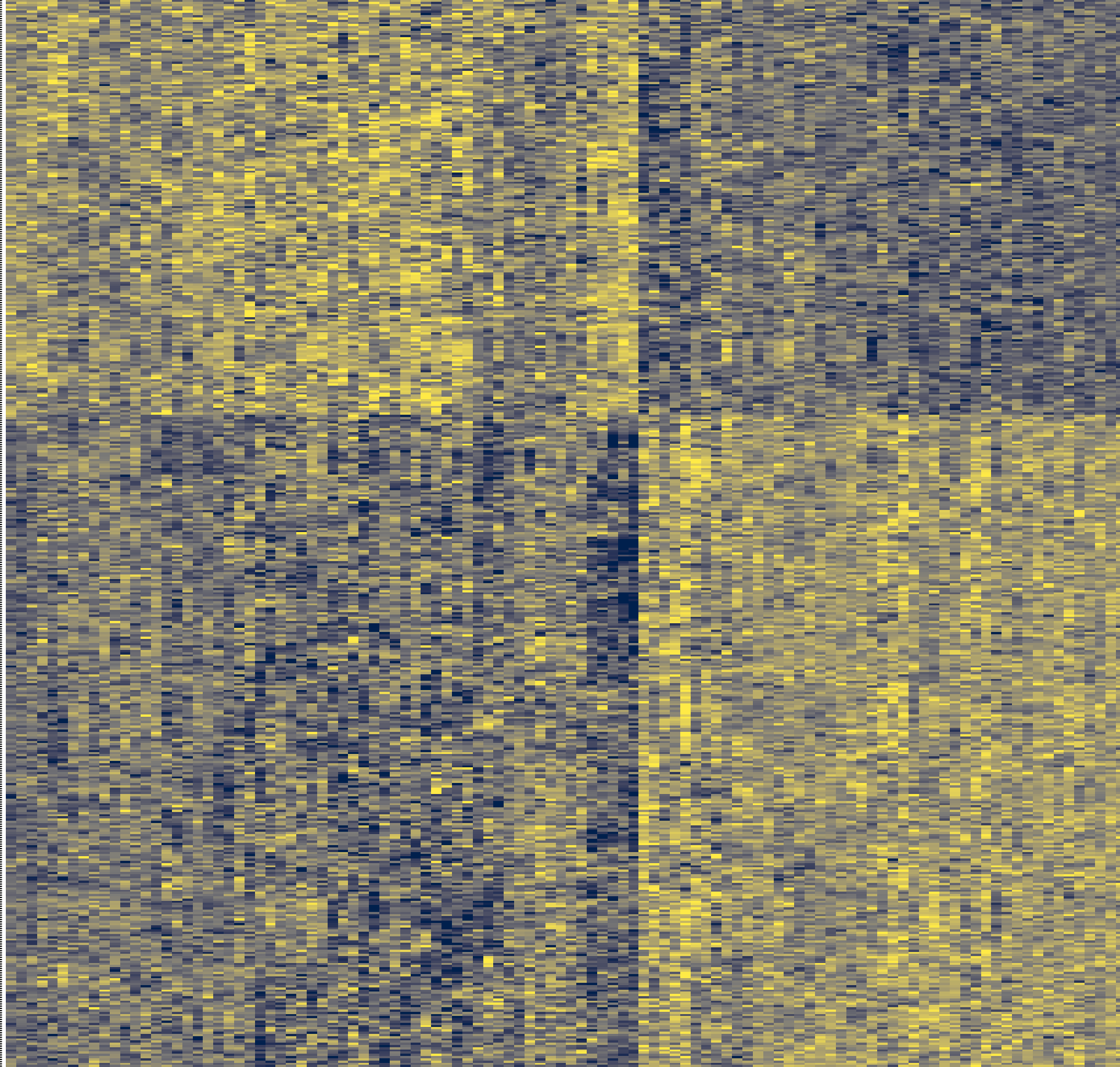
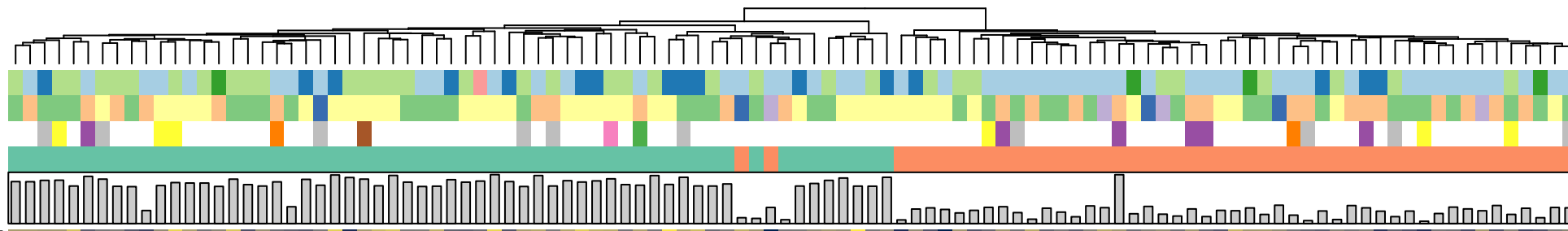
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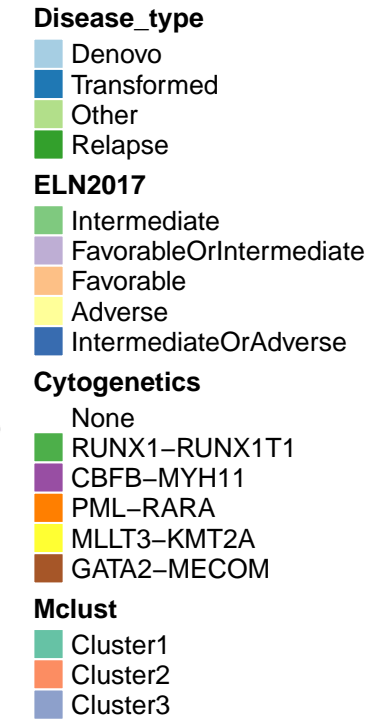
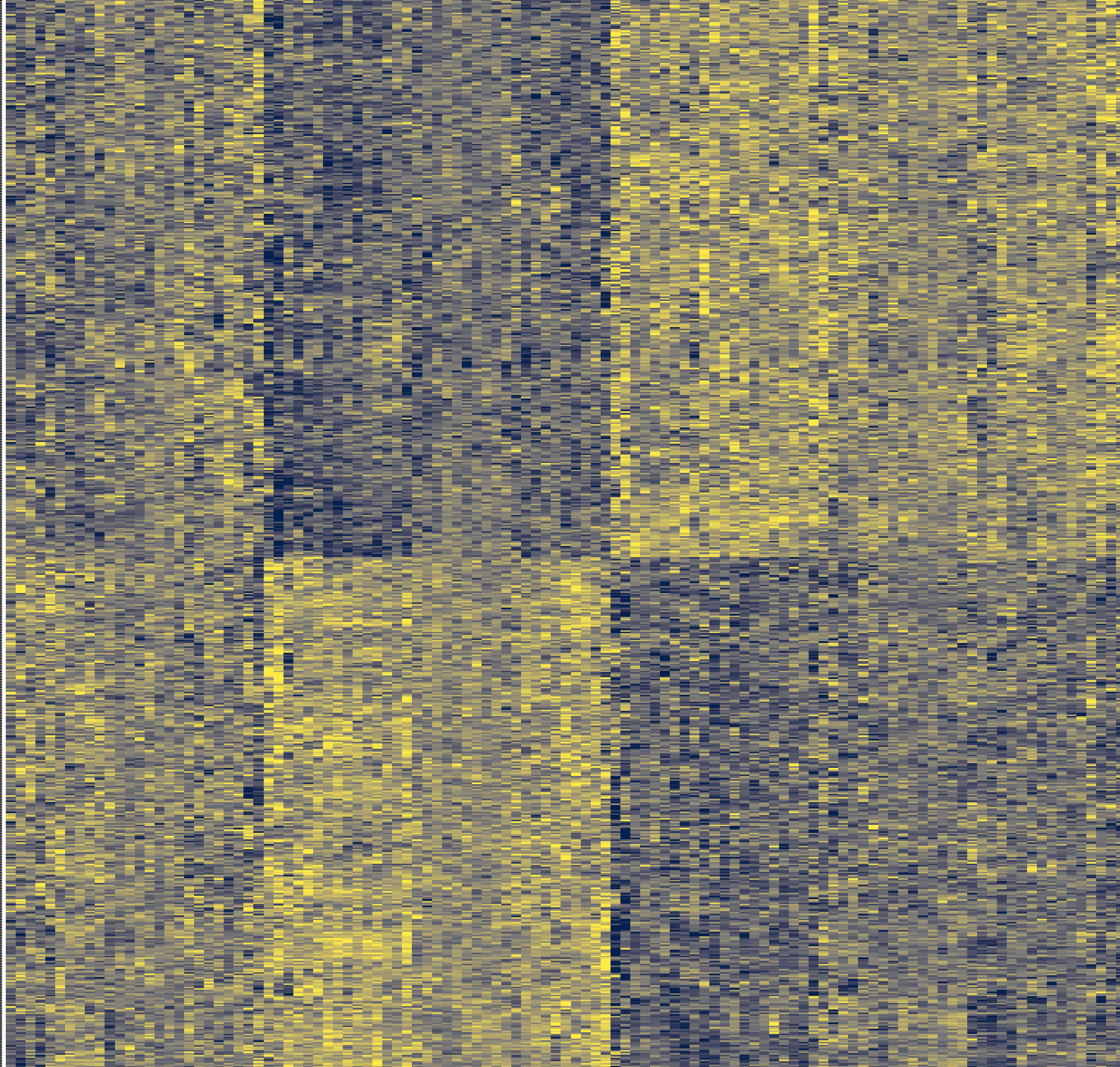
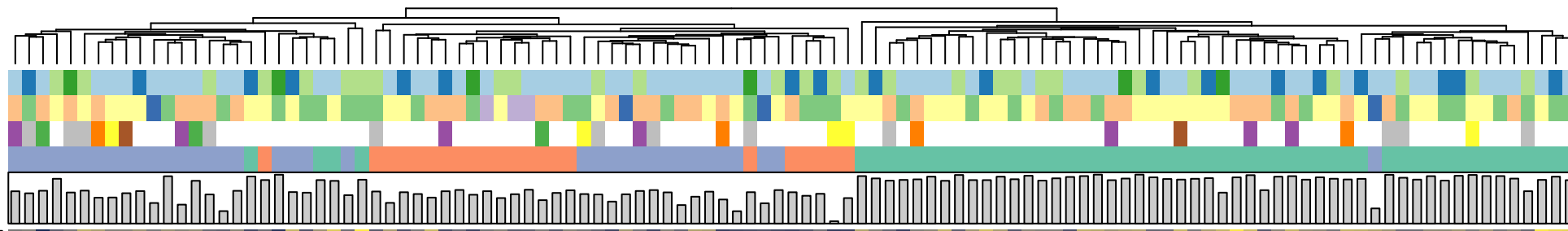
FLT3\_ITD  
NPM1  
DNMT3A



# Significant Gene Expression for Cabozantinib Response (n=108)



# Significant Gene Expression for Canertinib (CI-1033) Response (n=113)

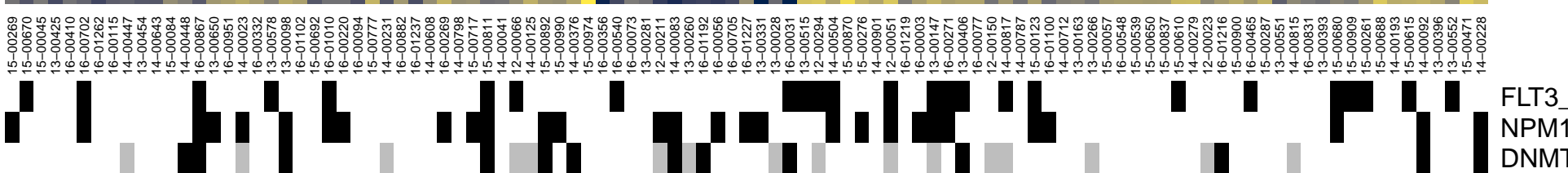
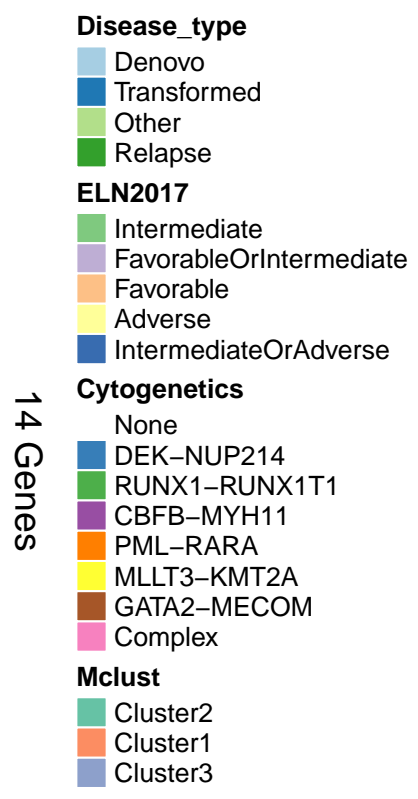
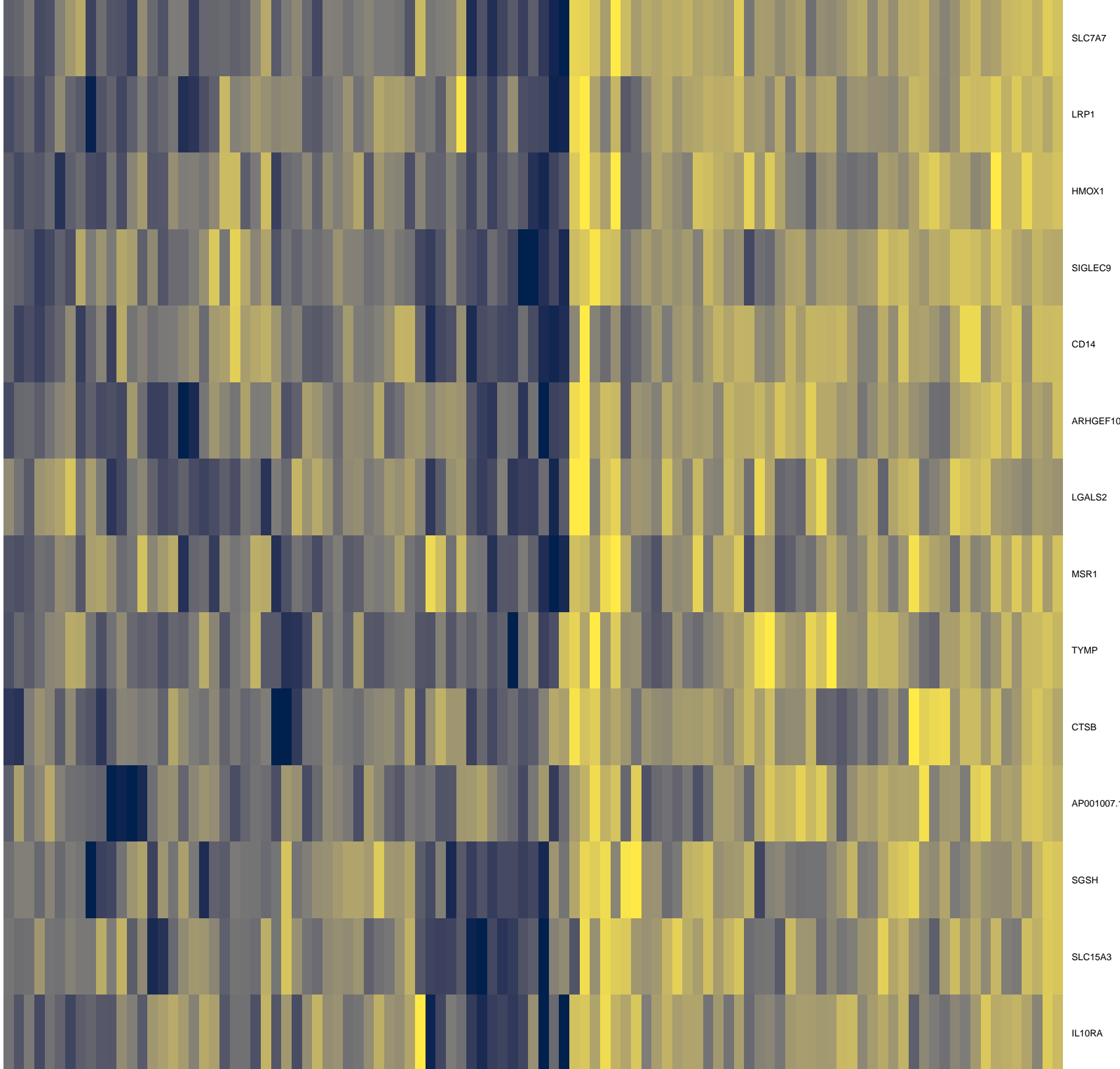
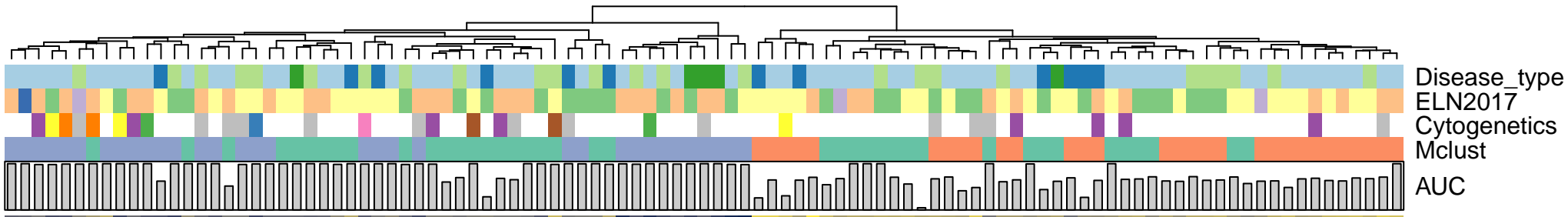


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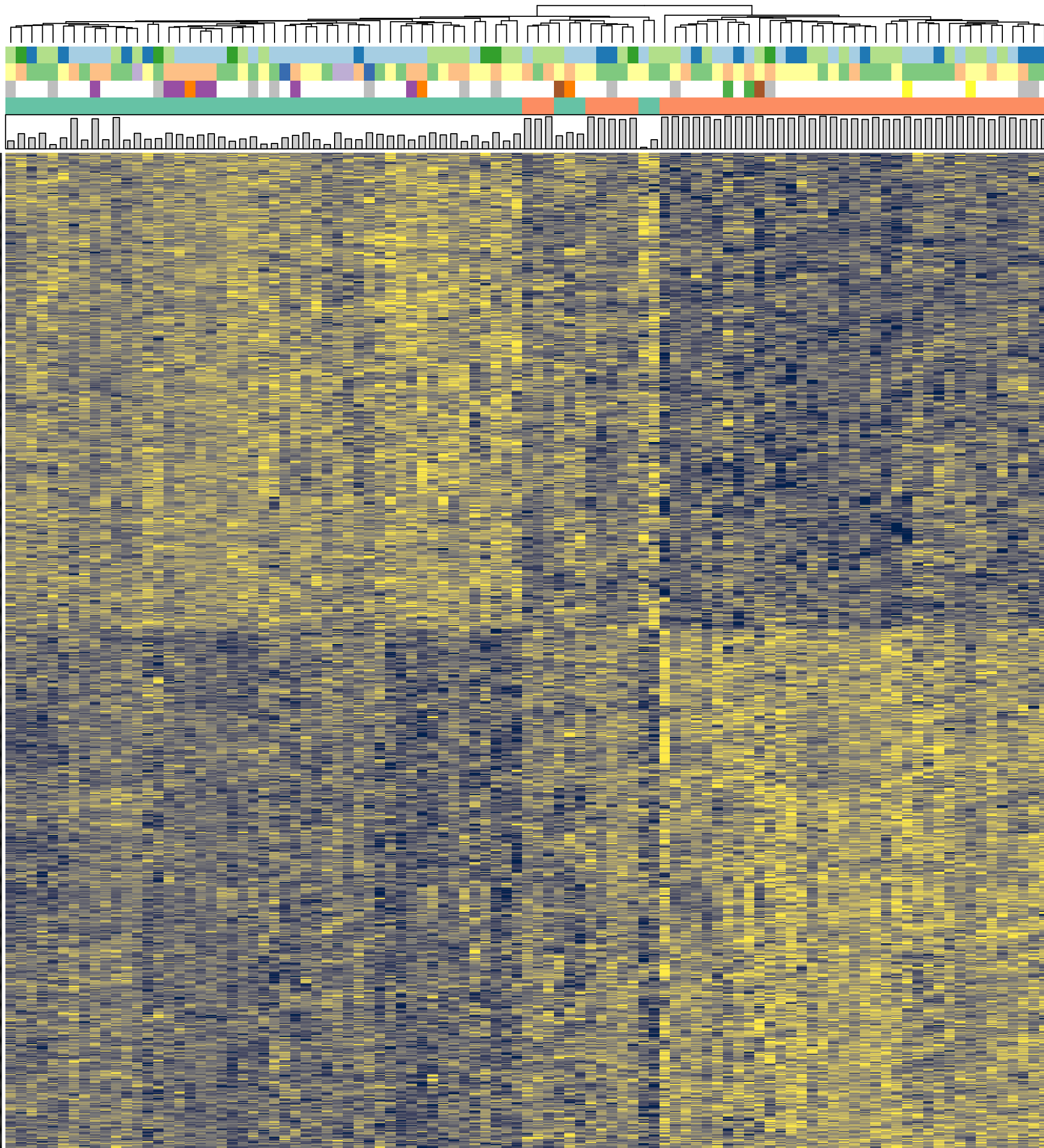


# Significant Gene Expression for Cediranib (AZD2171) Response (n=103)



FLT3\_ITD  
NPM1  
DNMT3A

# Significant Gene Expression for Crenolanib Response (n=99)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CFBF-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM

**Mclust**  
 Cluster1  
 Cluster2

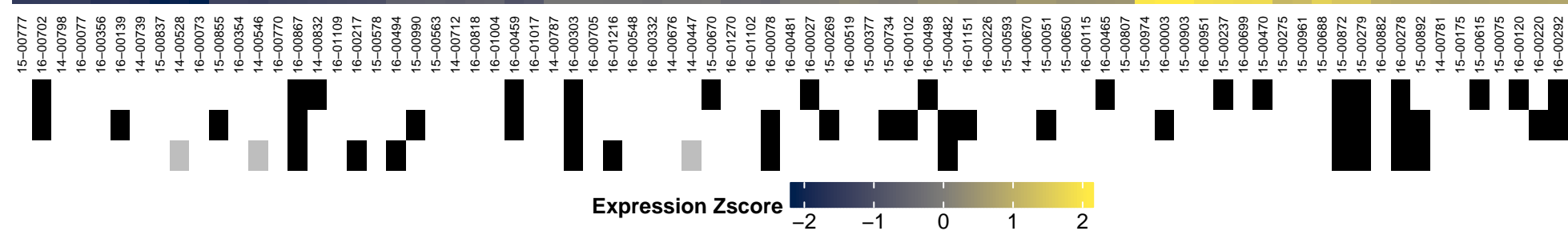
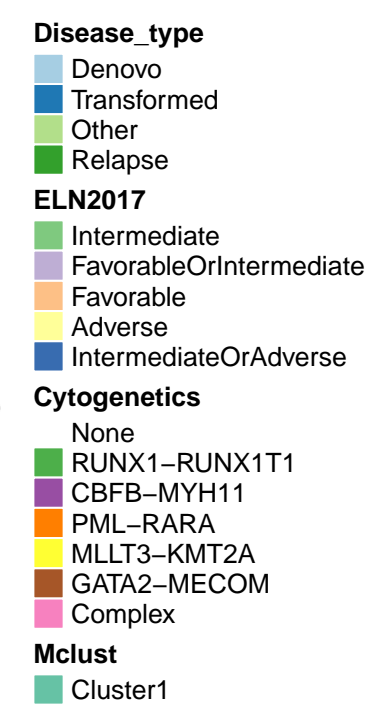
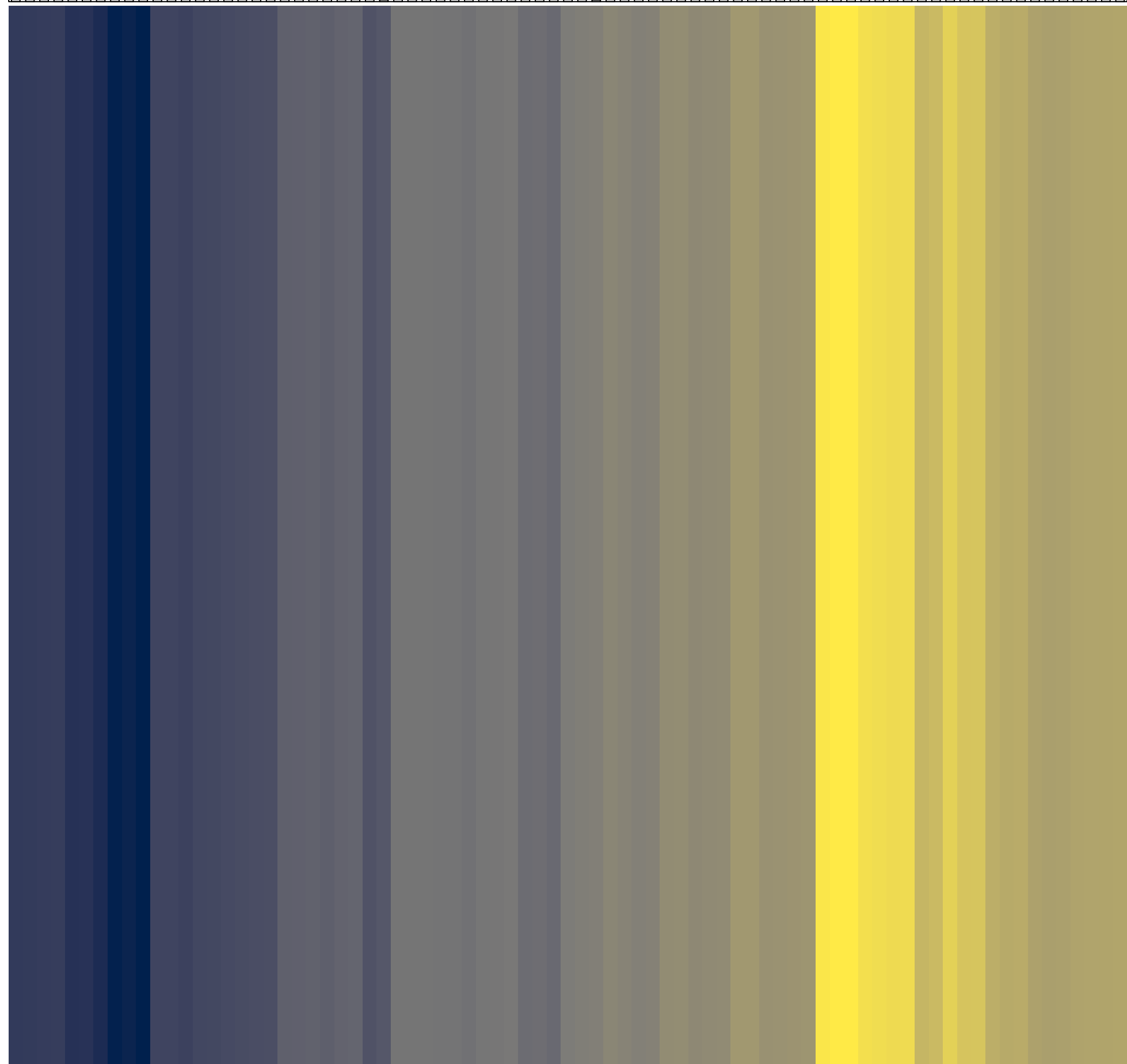
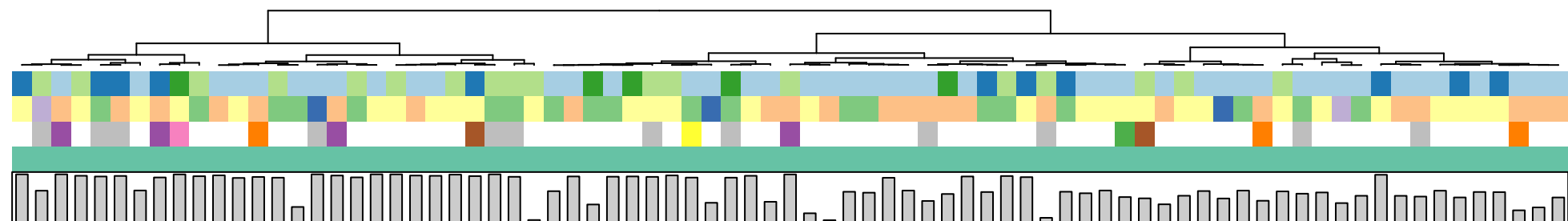
893 Genes

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FLT3\_ITD  
NPM1  
DNMT3A

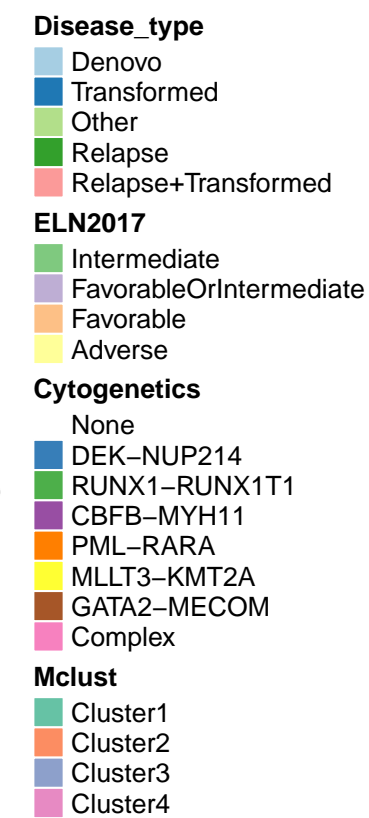
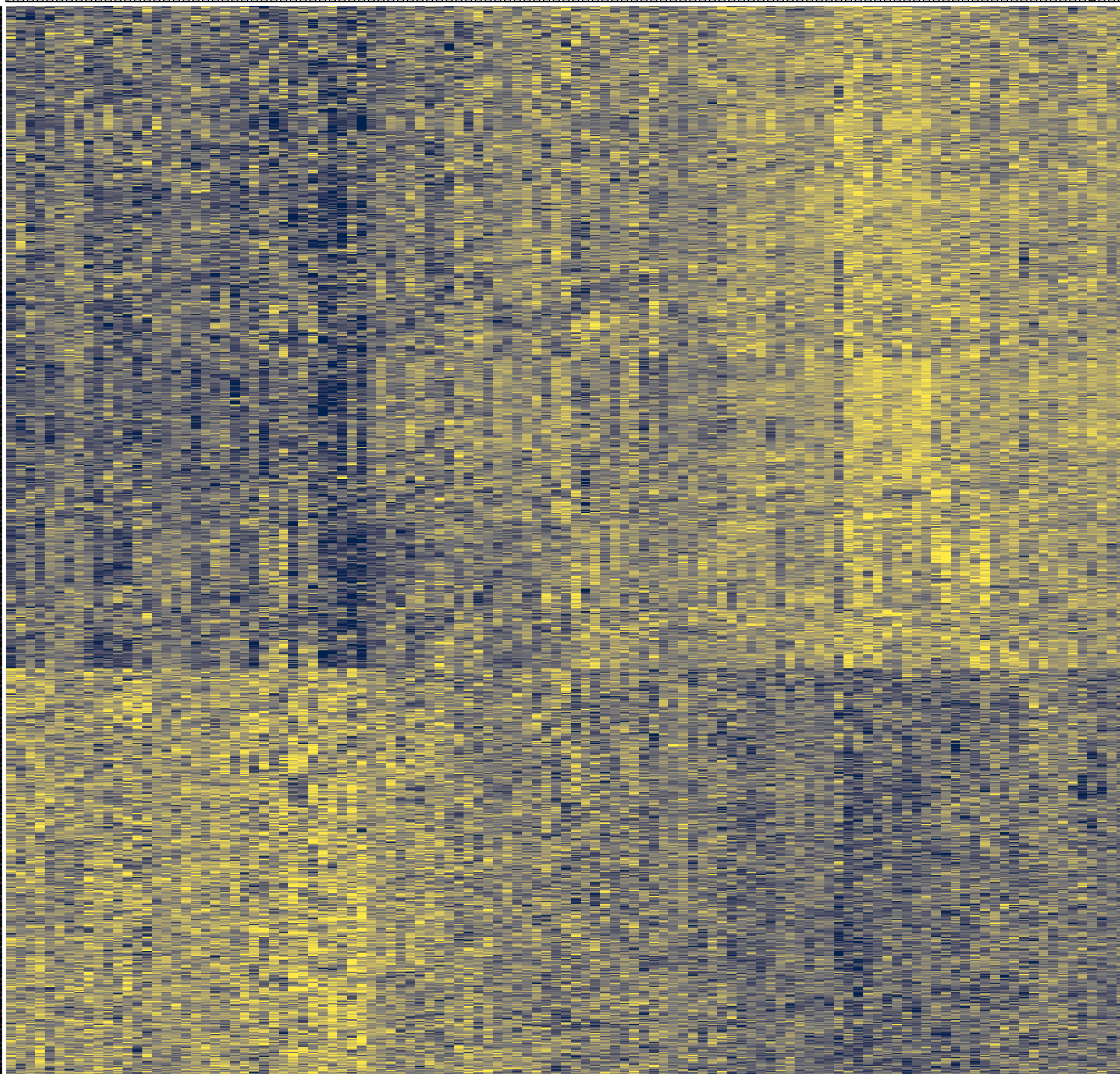
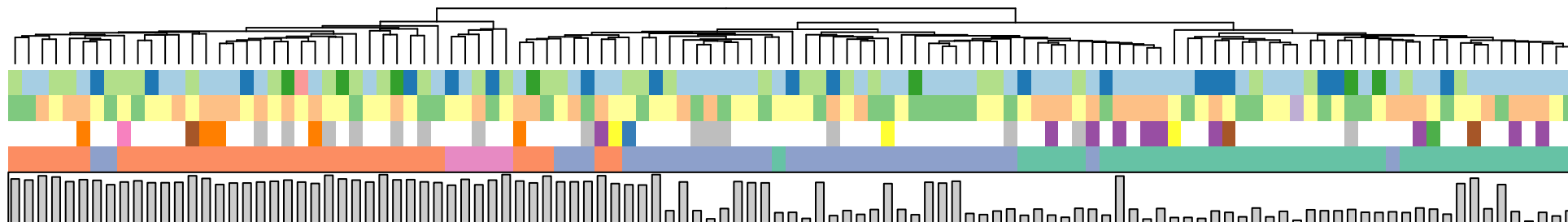


# Significant Gene Expression for DBZ Response (n=79)

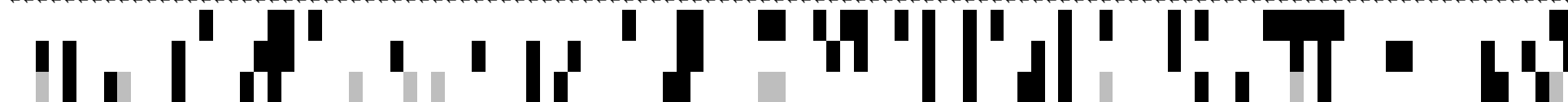


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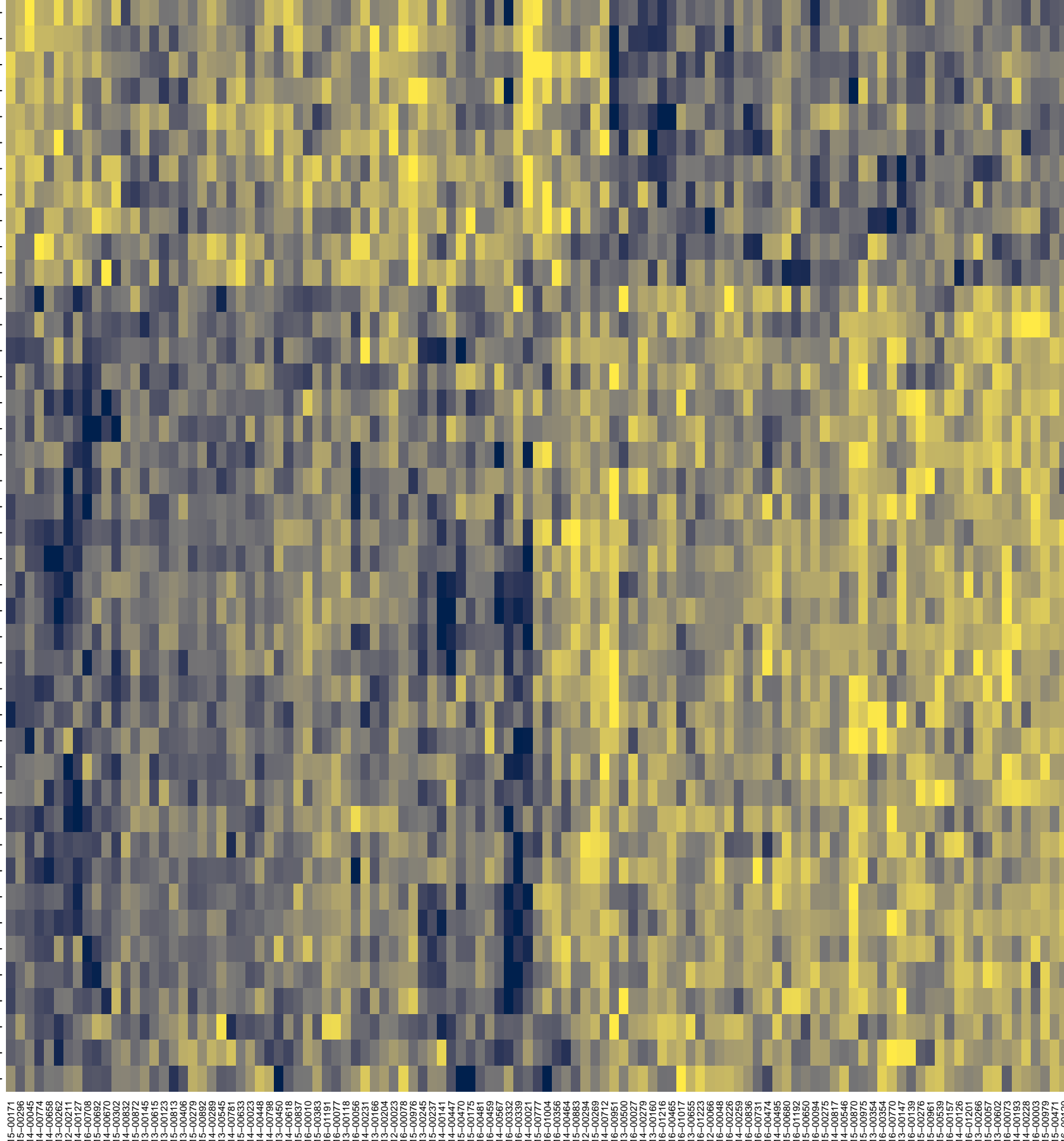
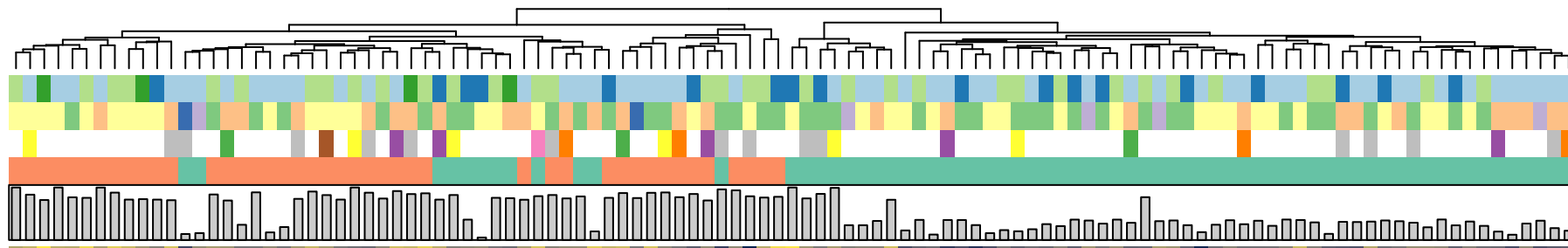
# Significant Gene Expression for Dasatinib Response (n=115)



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# Significant Gene Expression for Doramapimod (BIRB 796) Response (n=111)

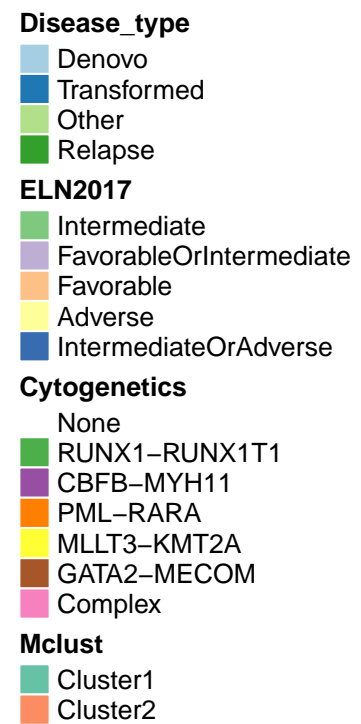


Disease\_type  
 ELN2017  
 Cytogenetics  
 Mclust

AUC

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 YTHDF2  
 ZNF134  
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 SEC22A  
 ZNF443  
 ZNF624  
 ZNF211  
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 ANGPTL6  
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 PSAP  
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 HEXB  
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 NCF2  
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42 Genes

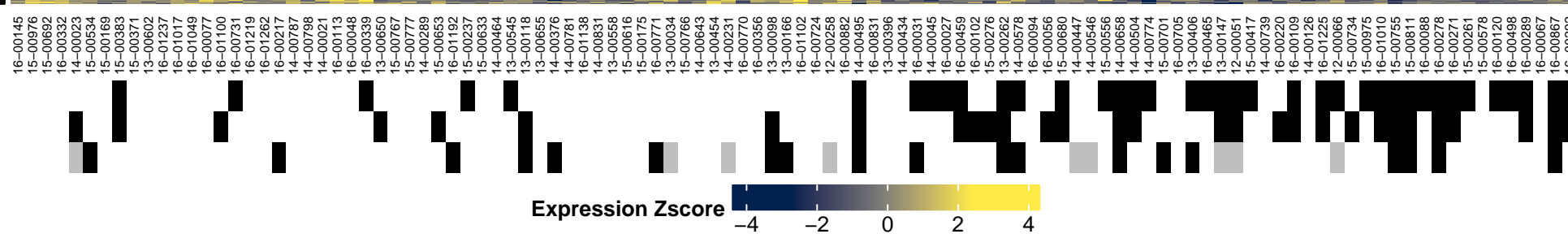
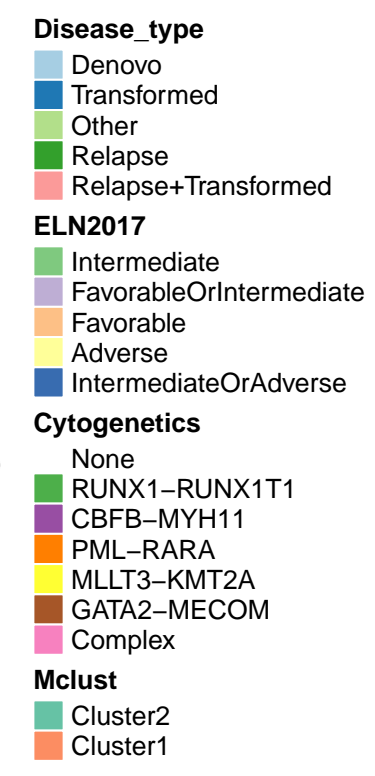
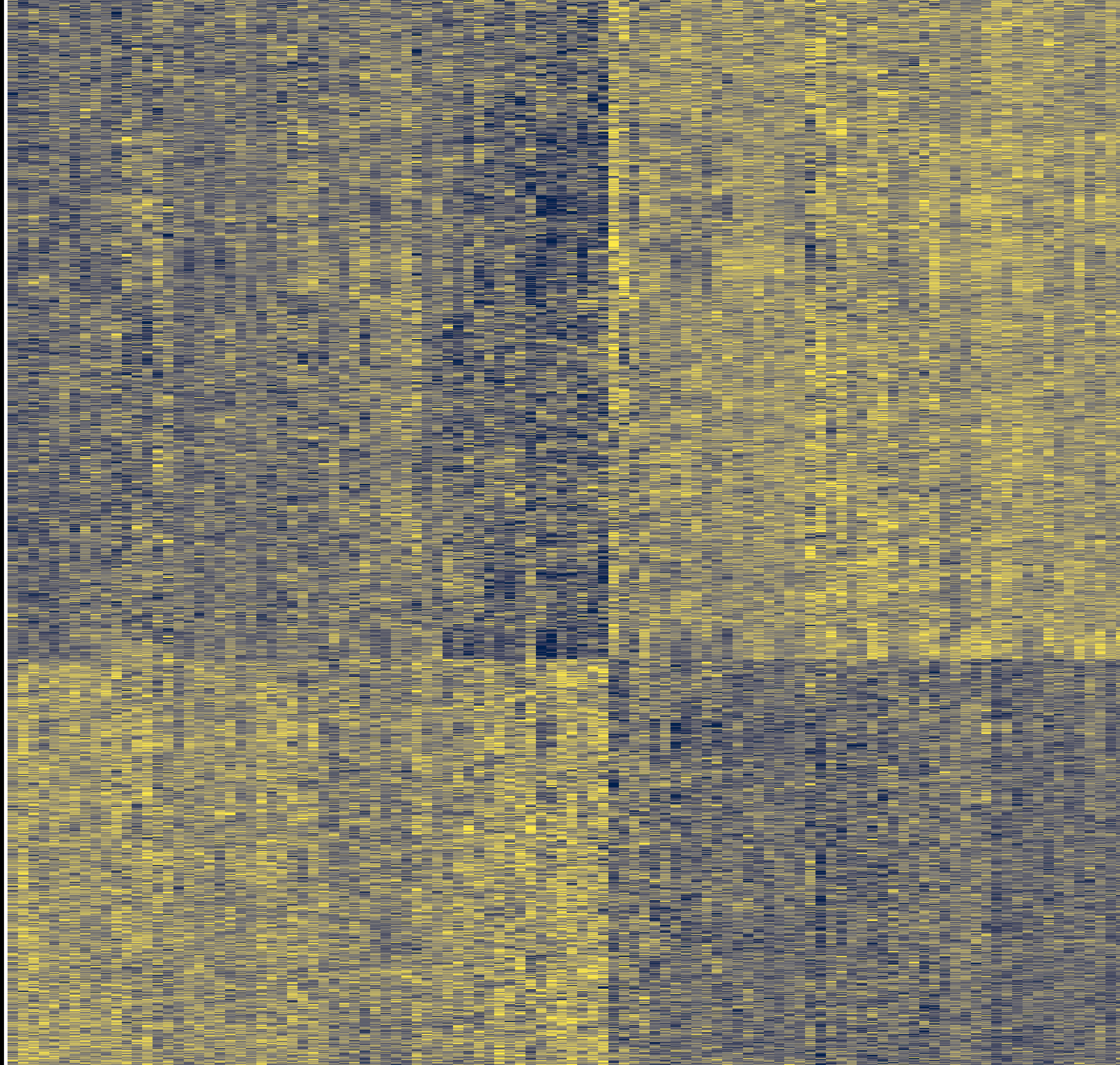
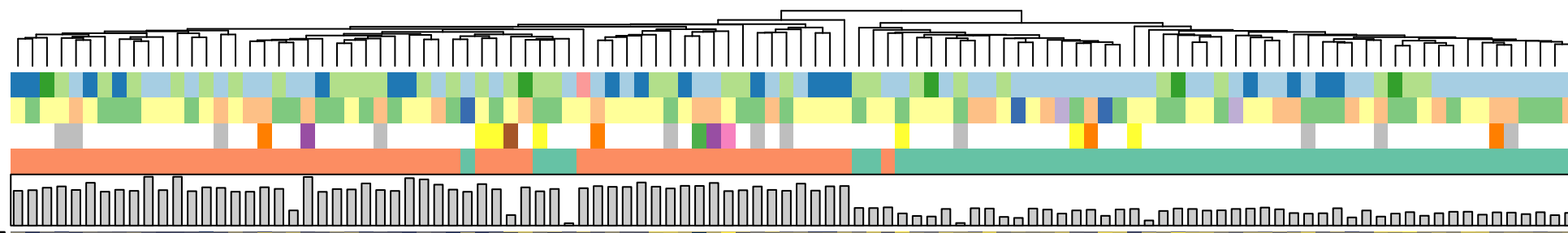


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 16-00120

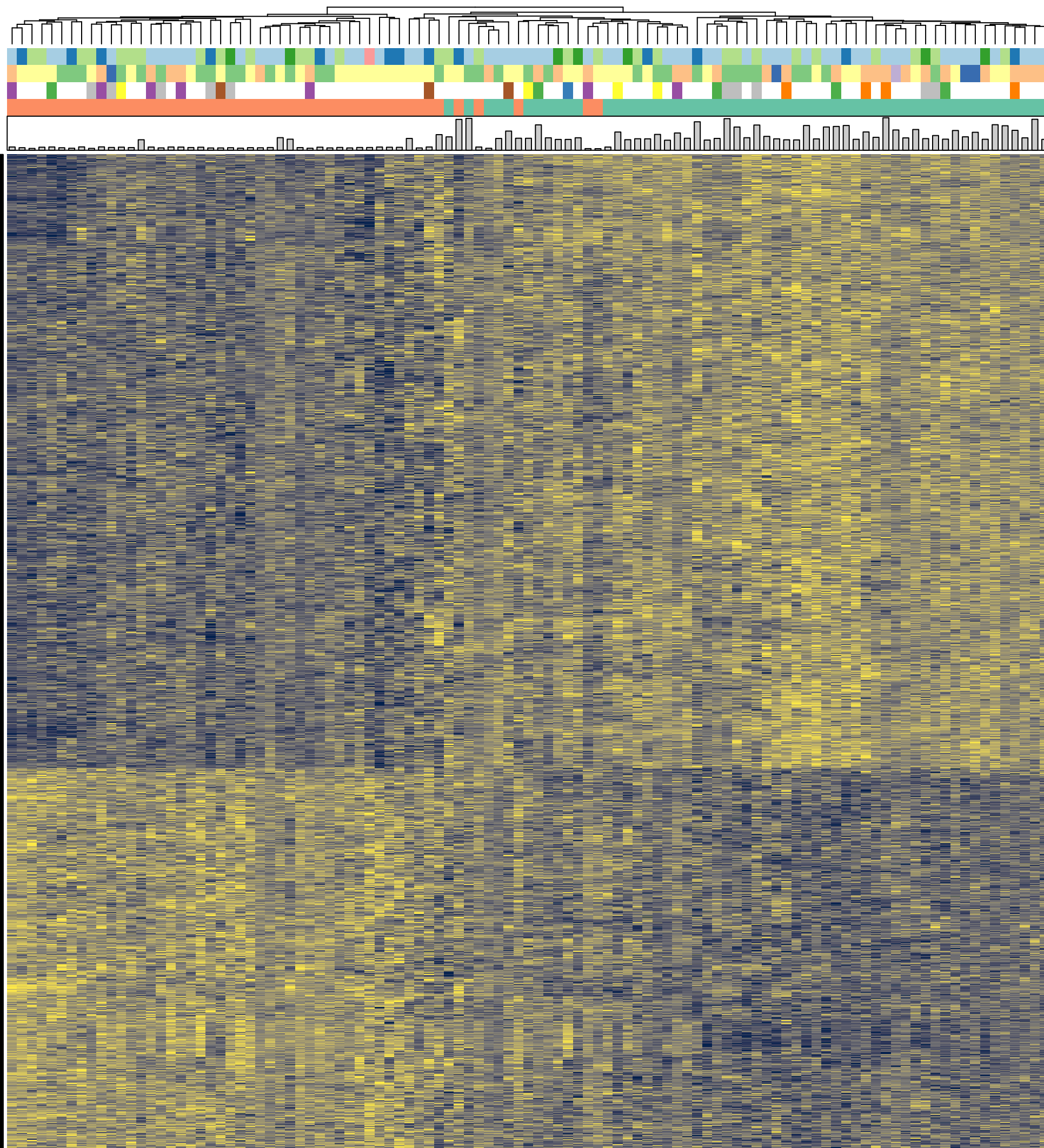
FLT3\_ITD  
 NPM1  
 DNMT3A



# Significant Gene Expression for Dovitinib (CHIR-258) Response (n=108)



# Significant Gene Expression for Elesclomol Response (n=105)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 DEK-NUP214  
 RUNX1-RUNX1T1  
 CBFβ-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM

**Mclust**  
 Cluster1  
 Cluster2

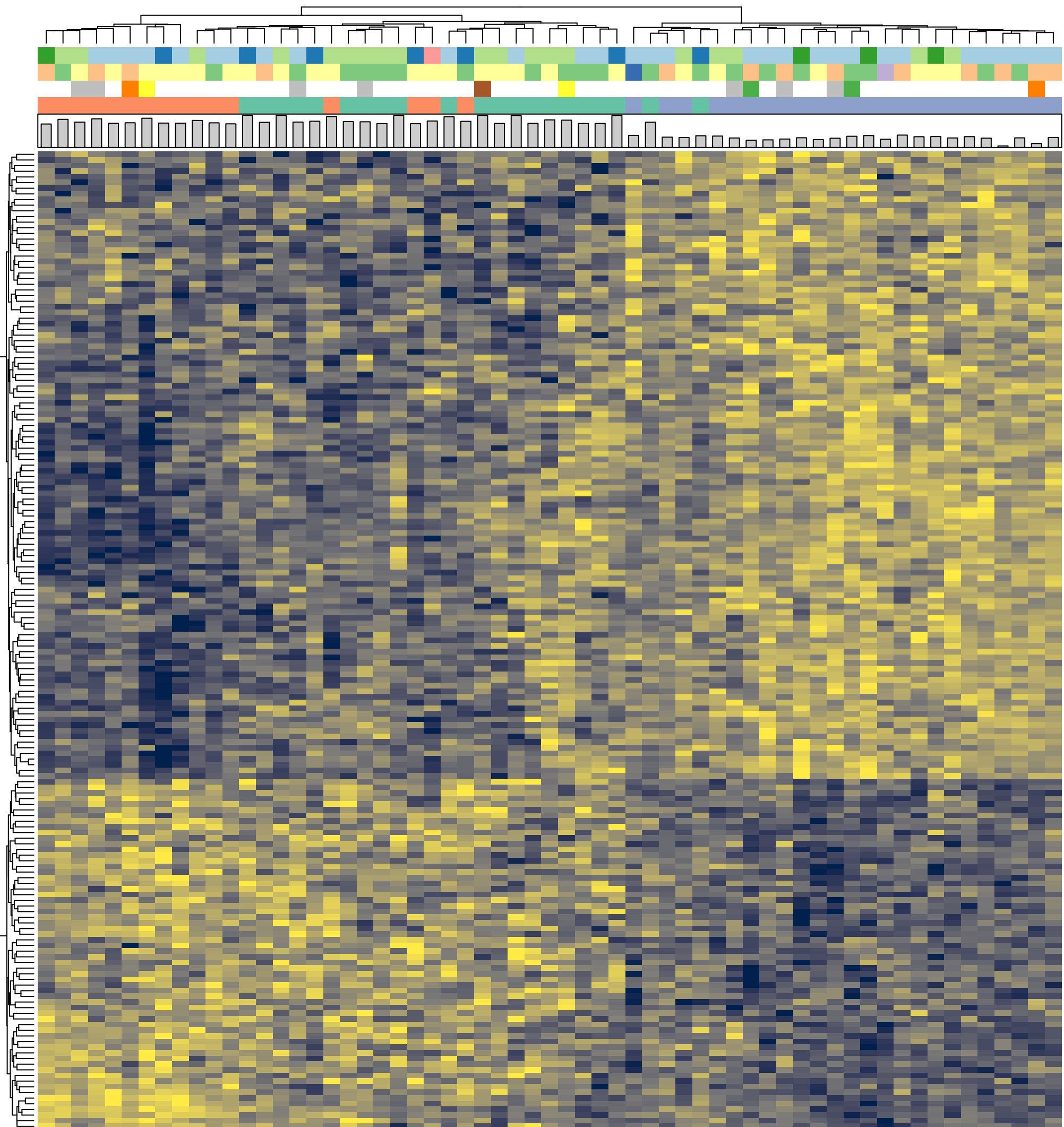
3777 Genes

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13-00226  
16-00292  
15-00990  
14-00034

FLT3\_ITD  
NPM1  
DNMT3A

Expression Zscore -4 -2 0 2 4

Significant Gene Expression for Entospletinib (GS-9973) Response (n=61)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM

**Mclust**  
 Cluster1  
 Cluster2  
 Cluster3

173 Genes

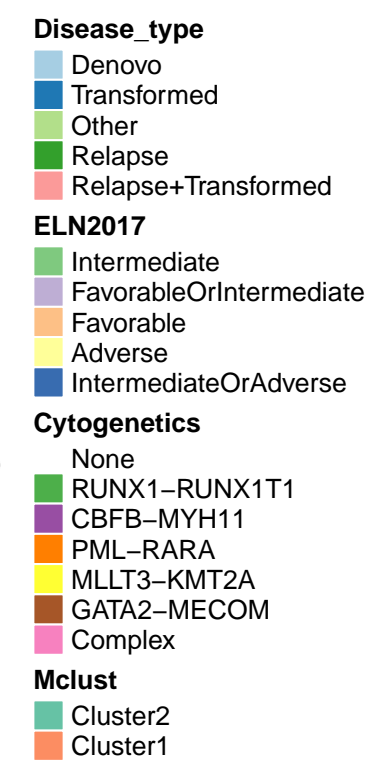
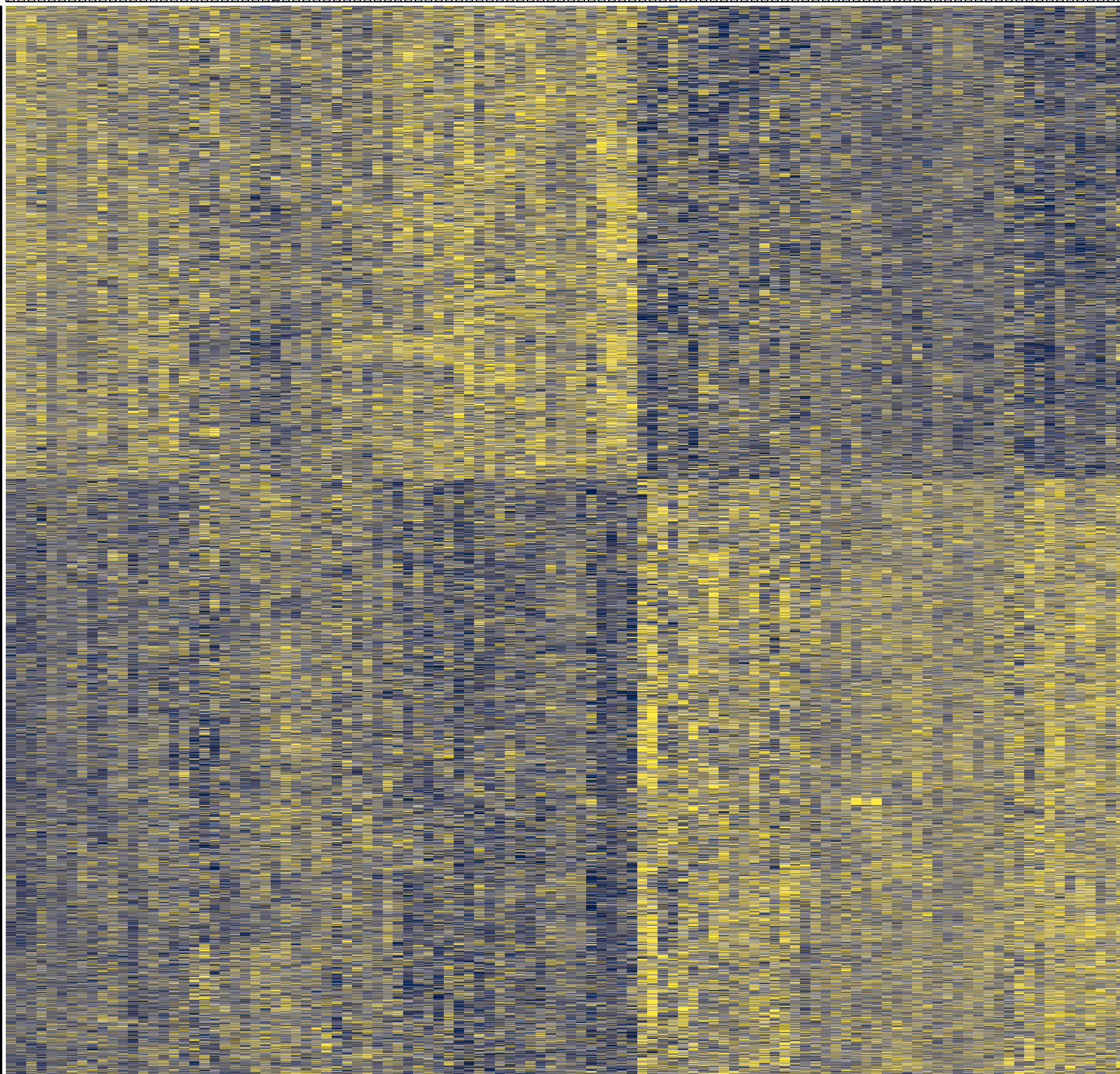
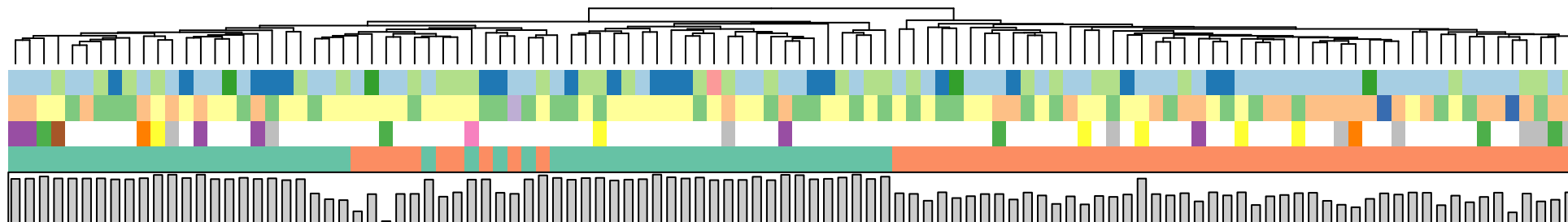
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15-00563  
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16-00548  
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16-00271  
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FLT3\_ITD  
NPM1  
DNMT3A

Expression Zscore -4 -2 0 2 4



# Significant Gene Expression for Erlotinib Response (n=110)

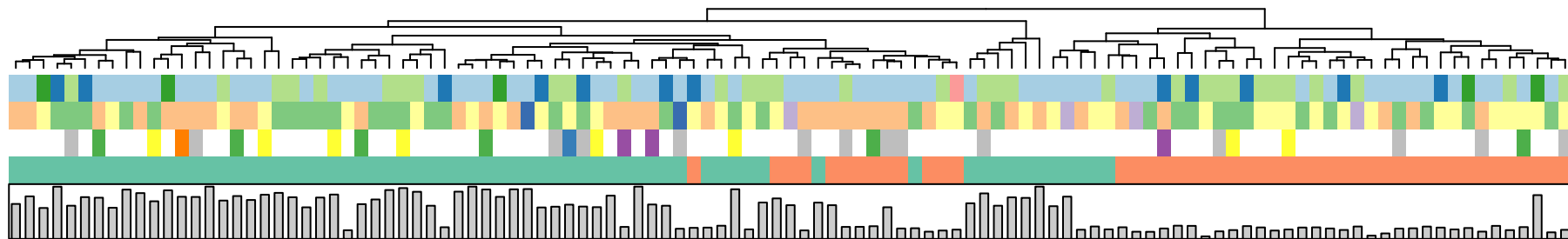


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 13-00245  
 16-01010

FLT3\_ITD  
 NPM1  
 DNMT3A



# Significant Gene Expression for Flavopiridol Response (n=113)



Disease\_type  
 ELN2017  
 Cytogenetics  
 Mclust

AUC

AGFG1

KIF1B

ABI3

RPL7AP60

TBCAP1

RP11-507E23.1

6 Genes

### Disease\_type

- Denovo
- Transformed
- Other
- Relapse
- Relapse+Transformed

### ELN2017

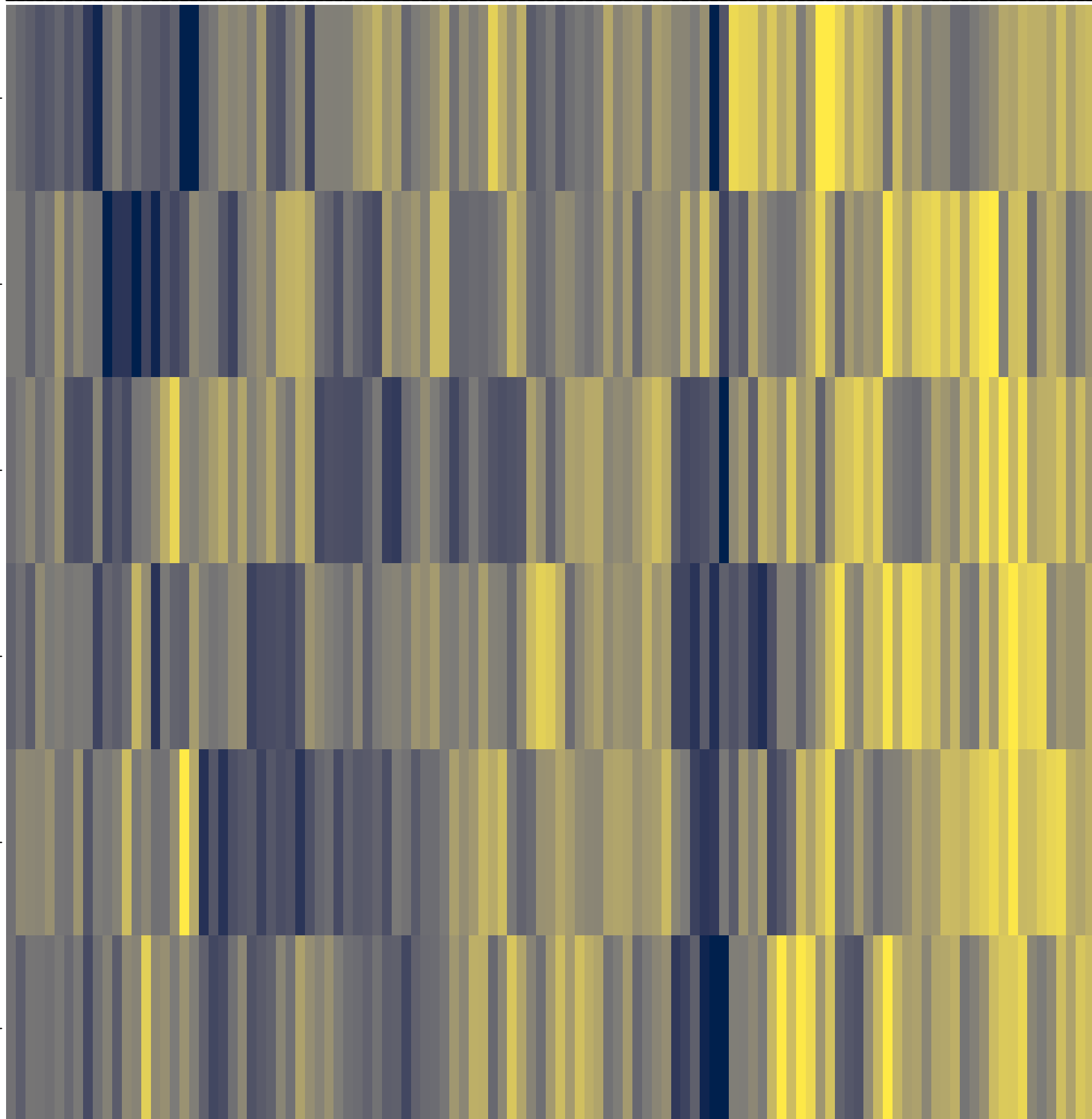
- Intermediate
- FavorableOrIntermediate
- Favorable
- Adverse
- IntermediateOrAdverse

### Cytogenetics

- None
- DEK-NUP214
- RUNX1-RUNX1T1
- CBFB-MYH11
- PML-RARA
- MLL3-KMT2A

### Mclust

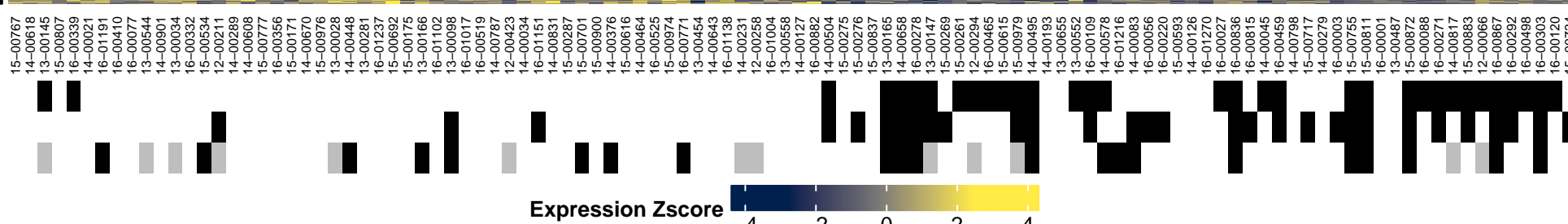
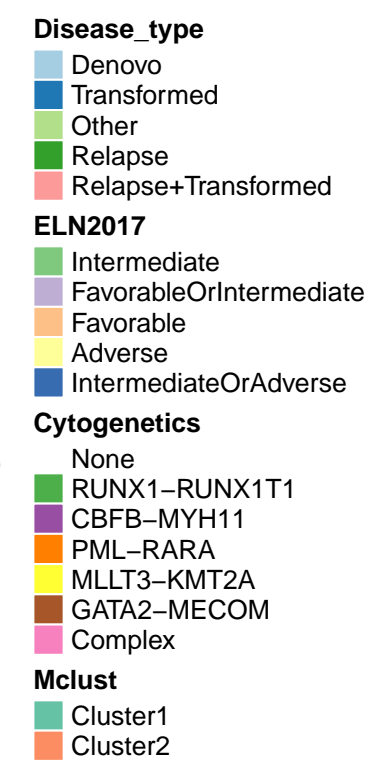
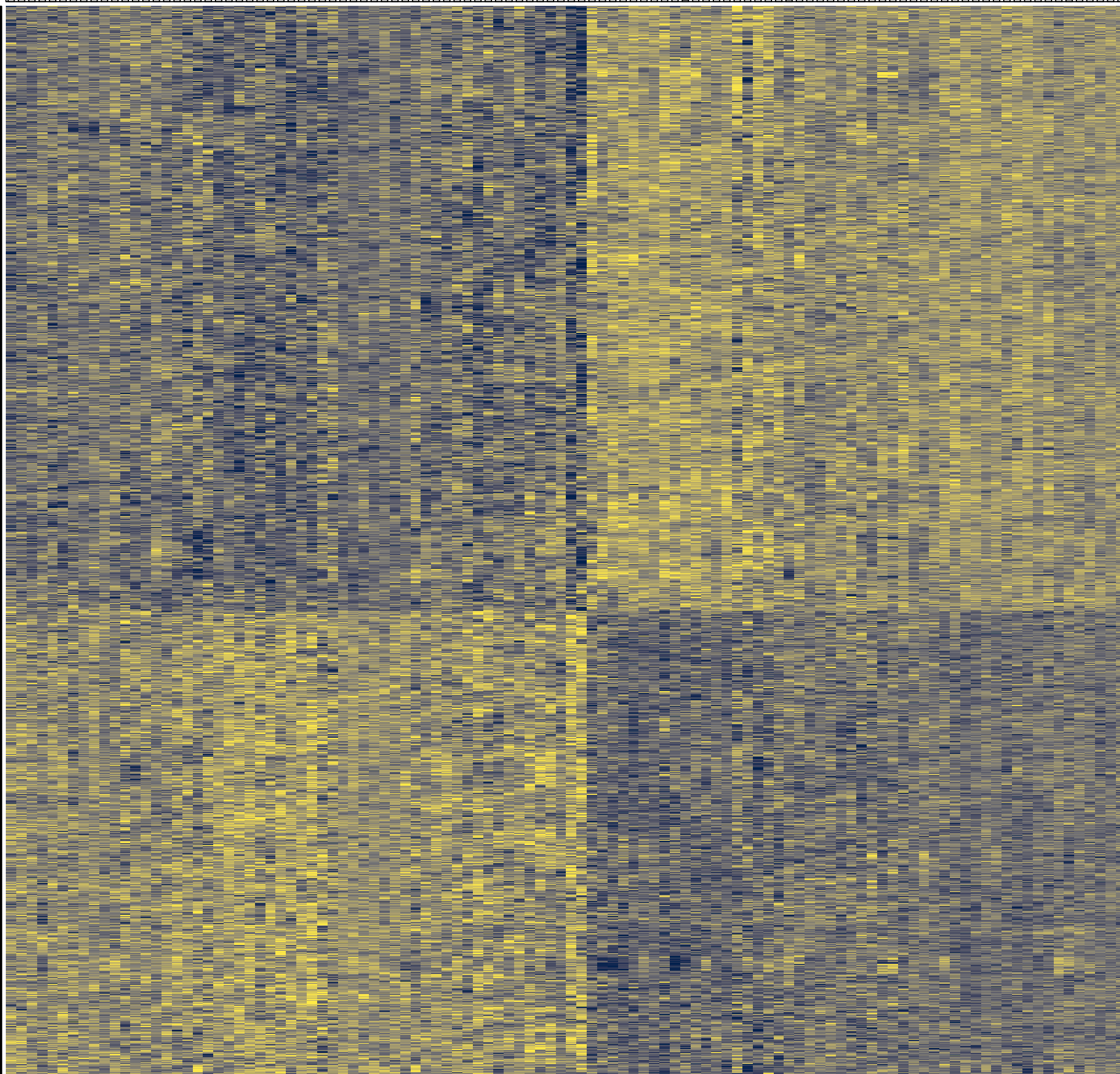
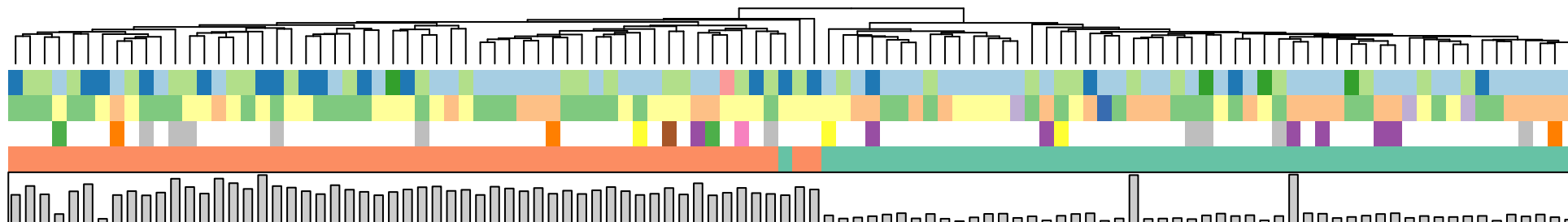
- Cluster2
- Cluster1



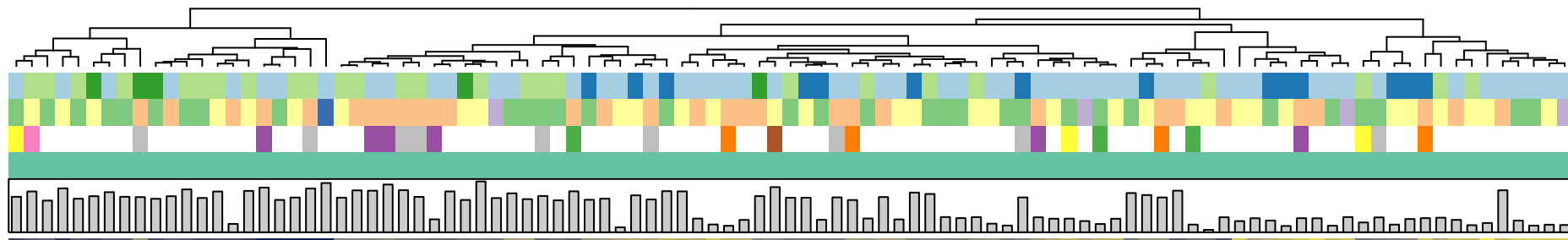
FLT3\_ITD  
 NPM1  
 DNMT3A

Expression Zscore  
 -4 -2 0 2 4

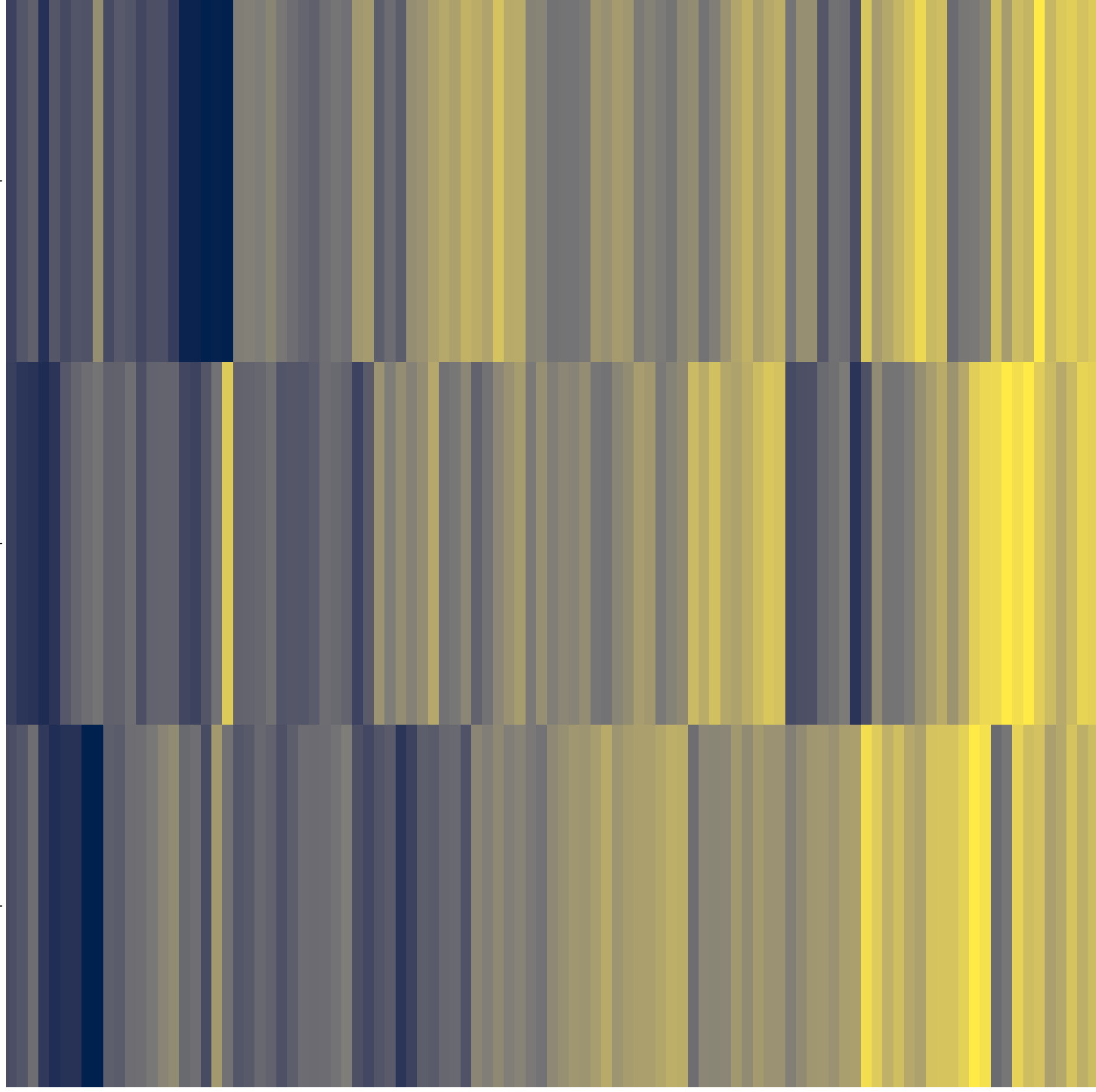
# Significant Gene Expression for Foretinib (XL880) Response (n=108)



# Significant Gene Expression for GDC-0941 Response (n=101)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust

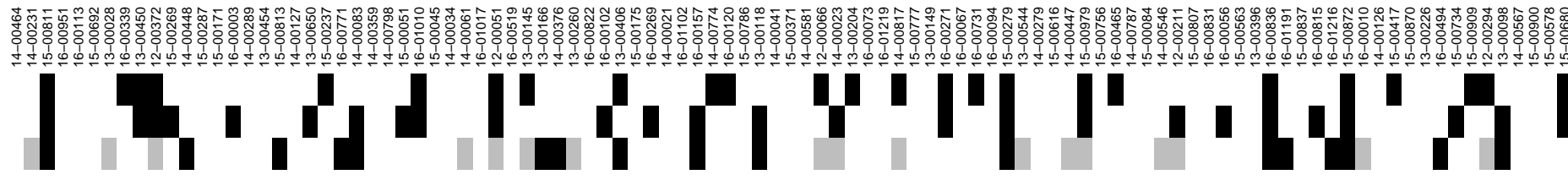
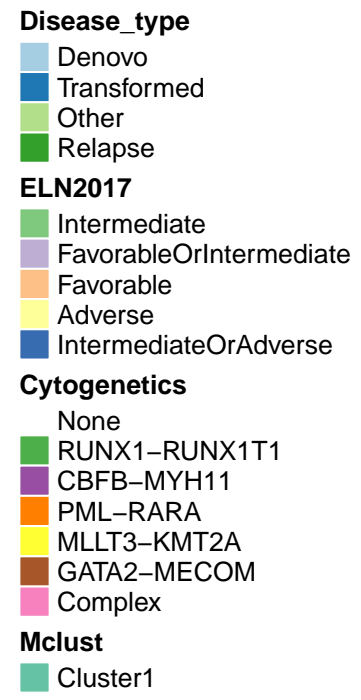


FYB

EMILIN2

RIN1

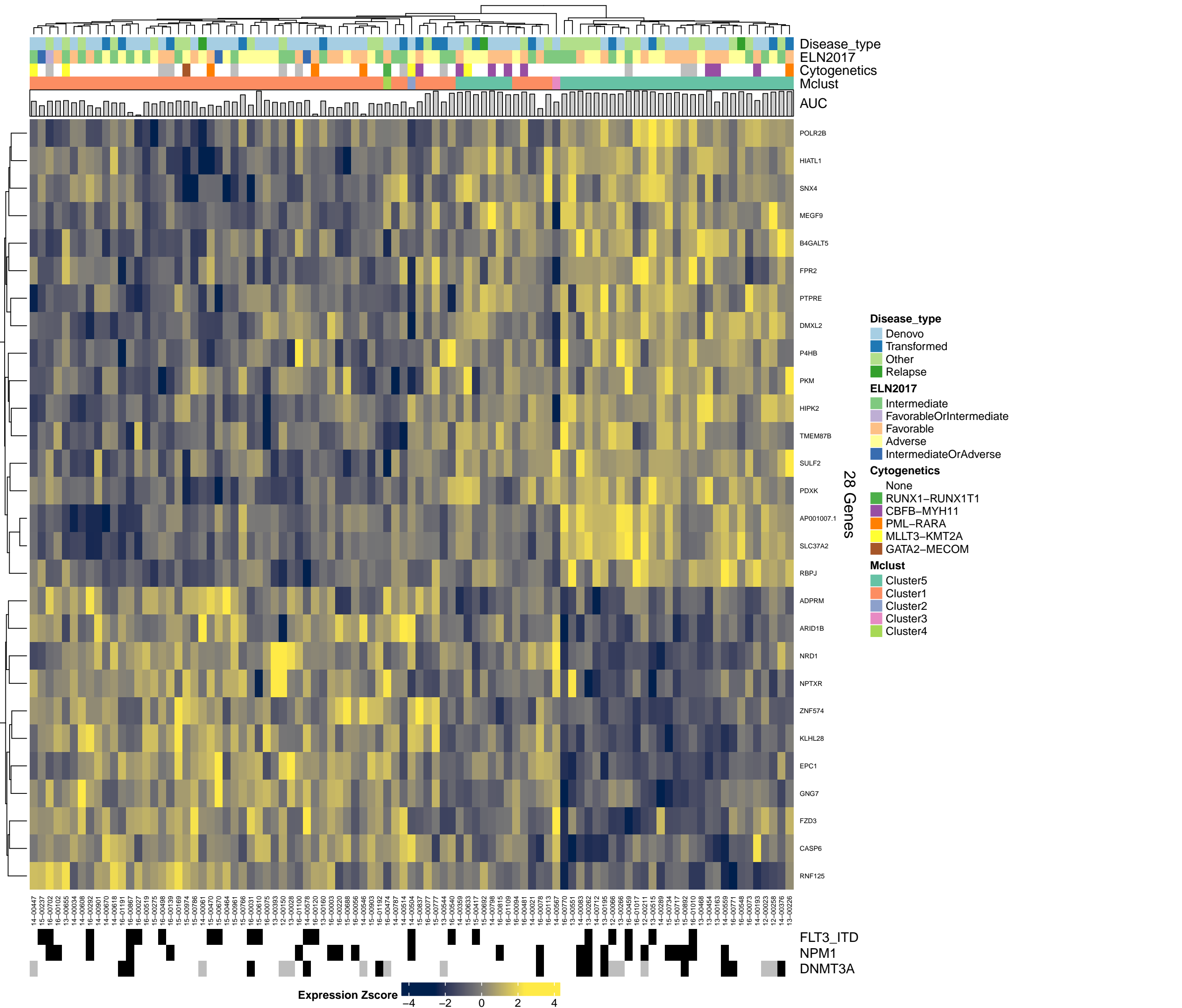
3 Genes



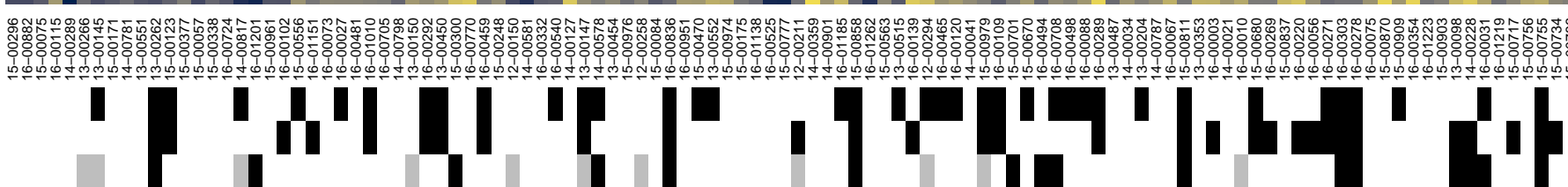
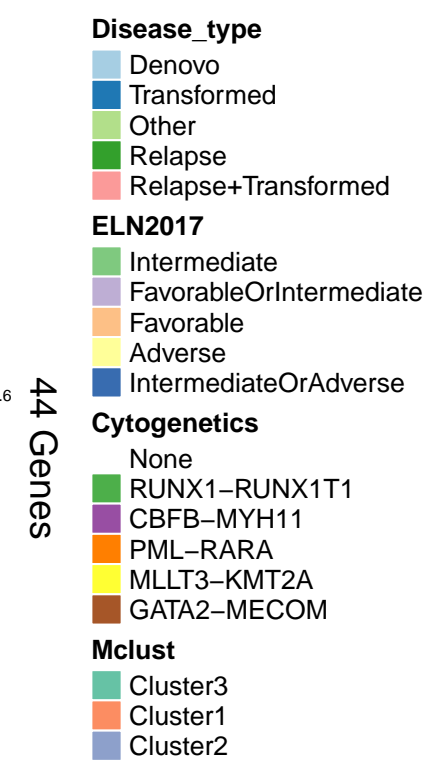
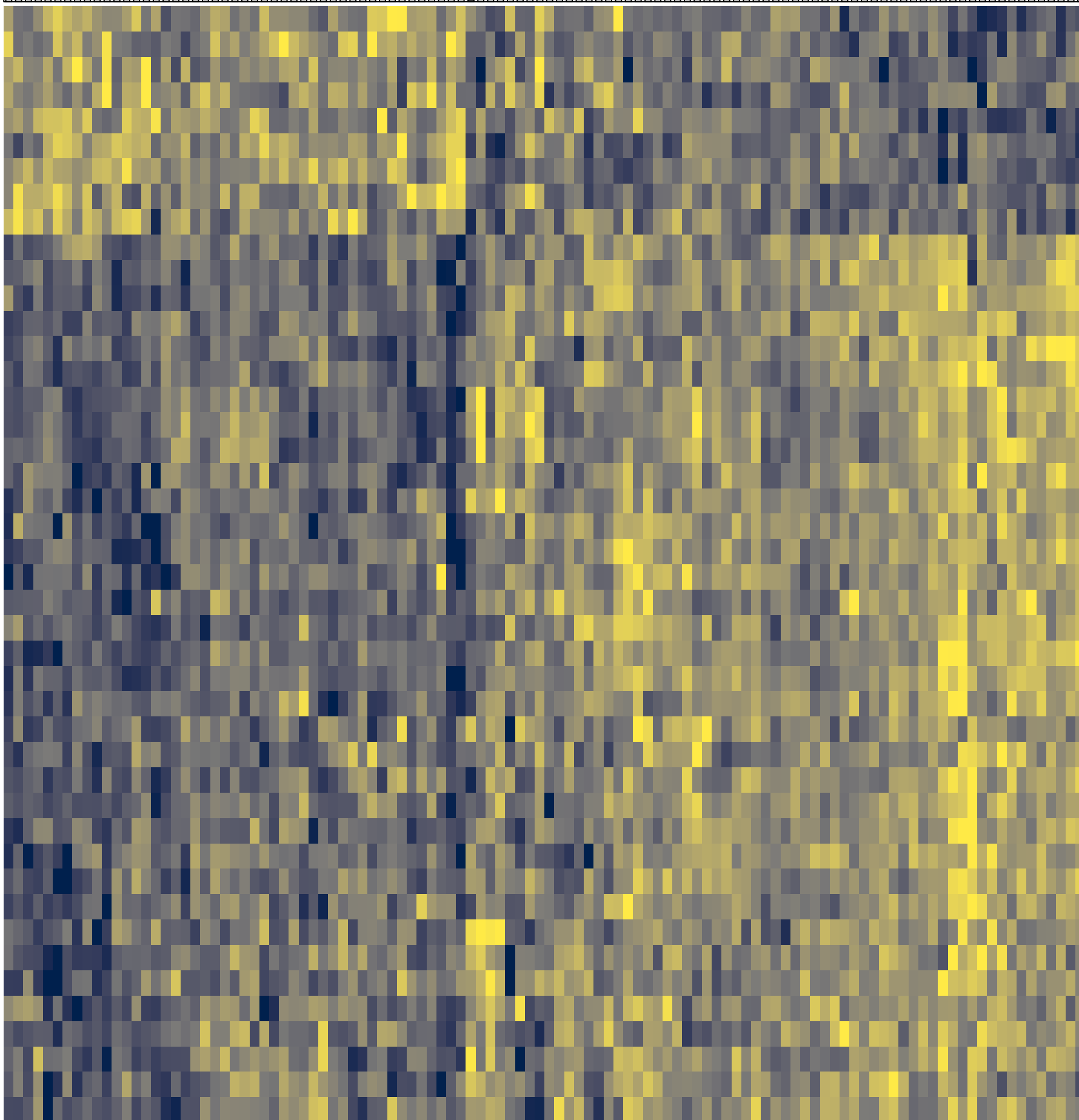
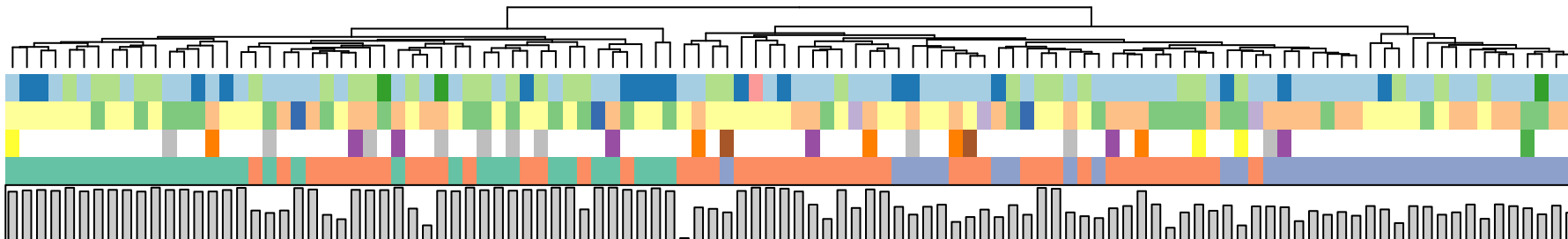
FLT3\_ITD  
NPM1  
DNMT3A



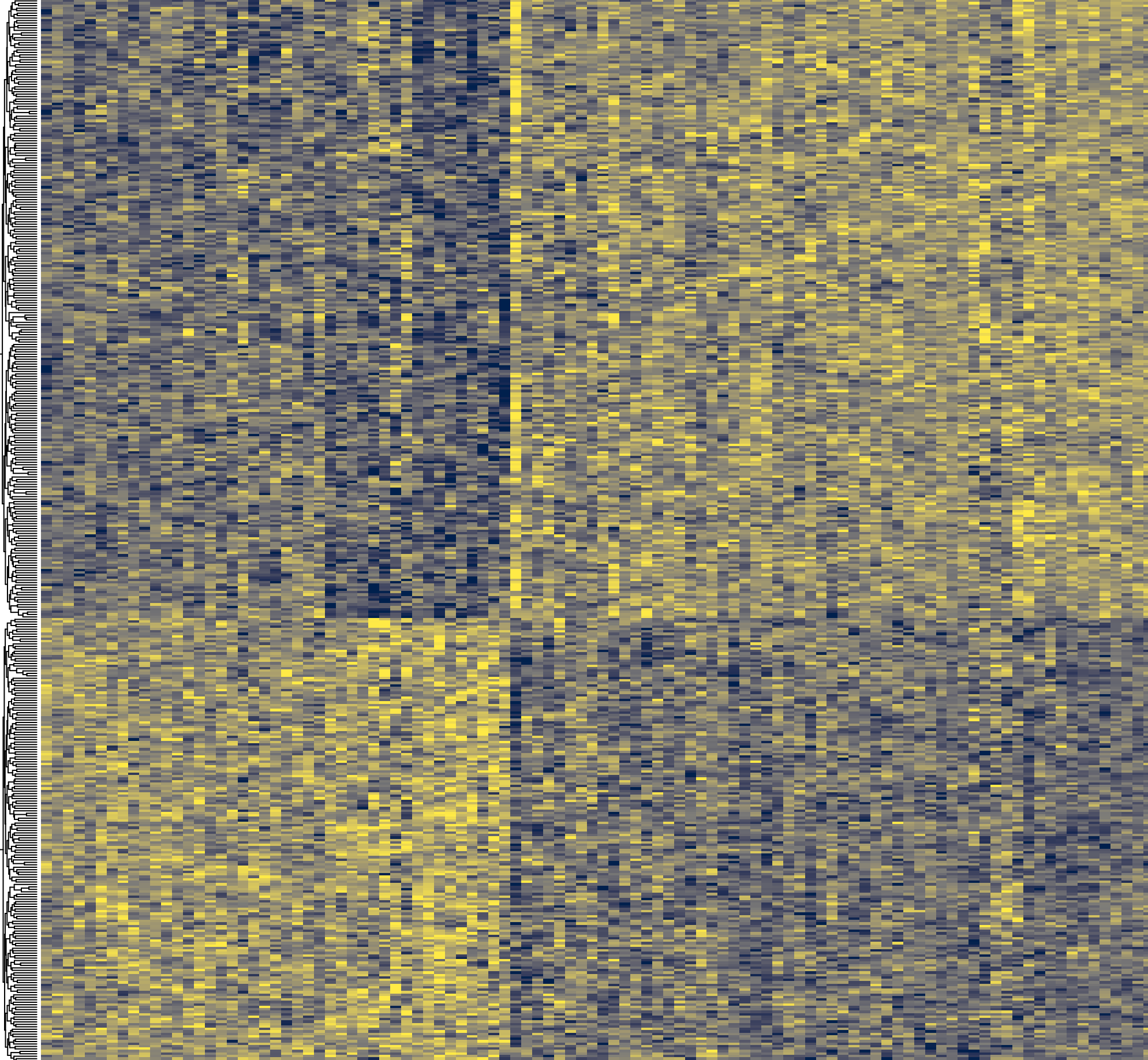
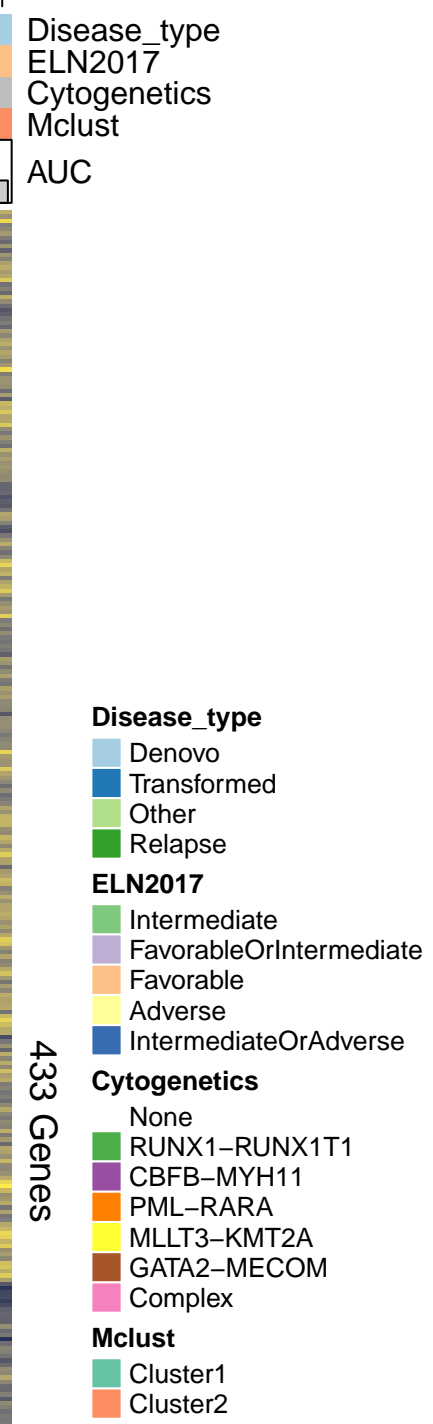
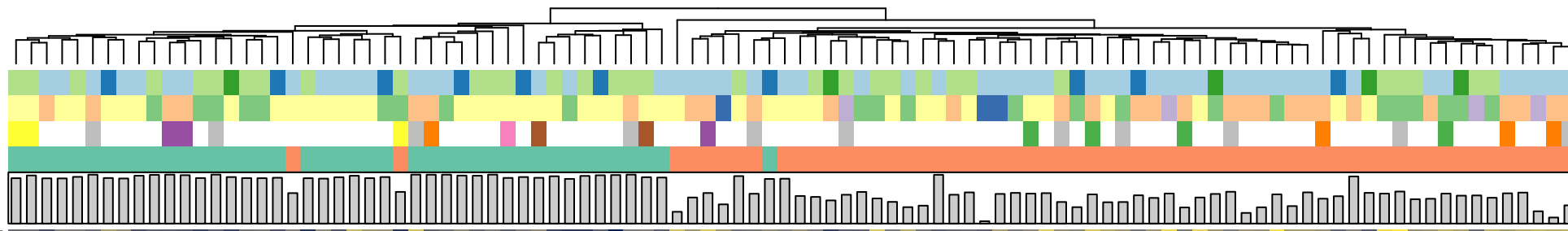
# Significant Gene Expression for GSK-1838705A Response (n=95)



# Significant Gene Expression for GSK-1904529A Response (n=110)



# Significant Gene Expression for Gefitinib Response (n=102)

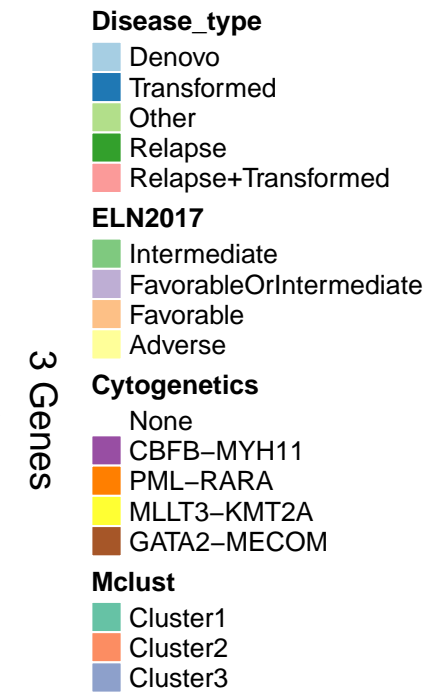
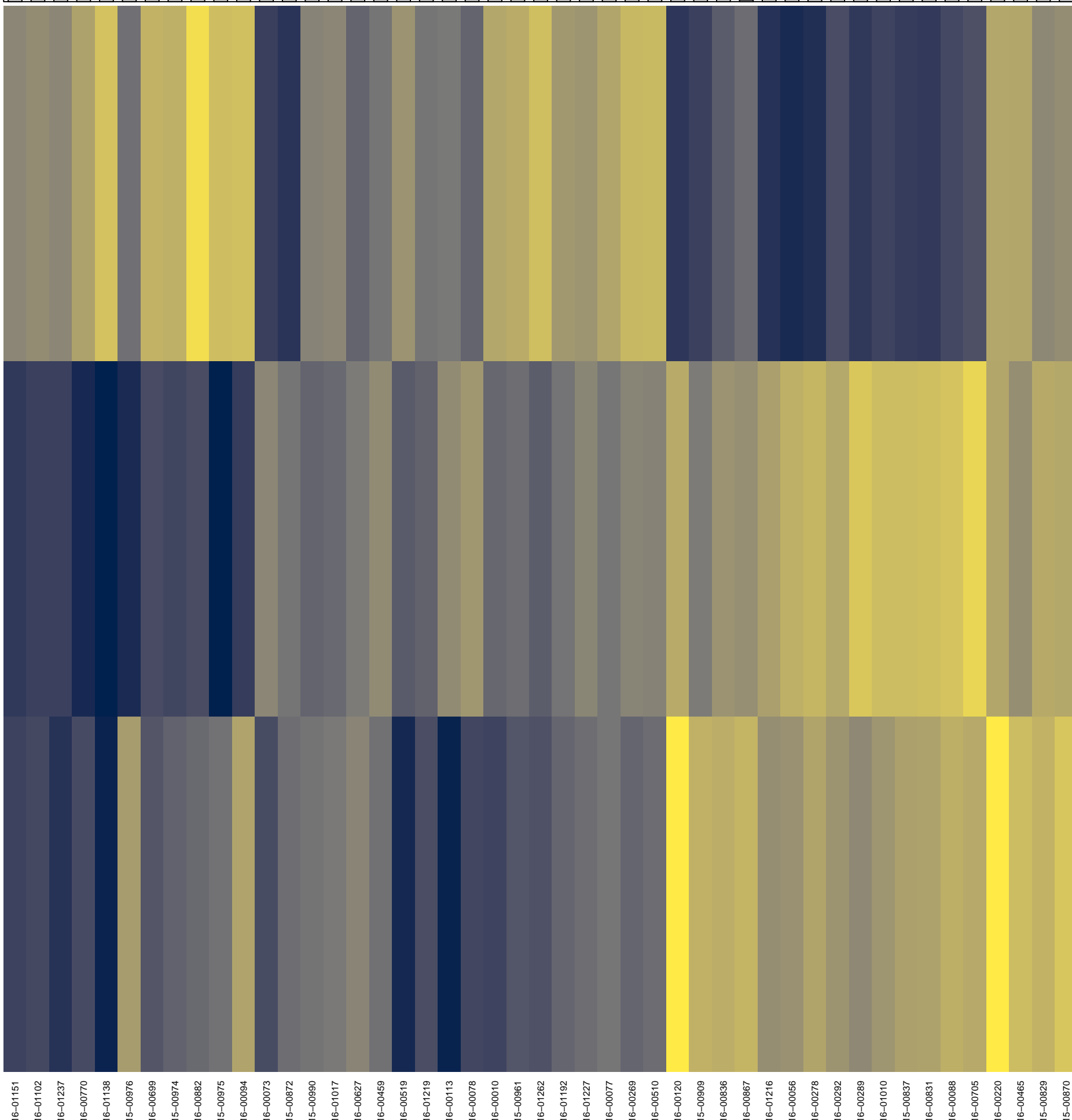
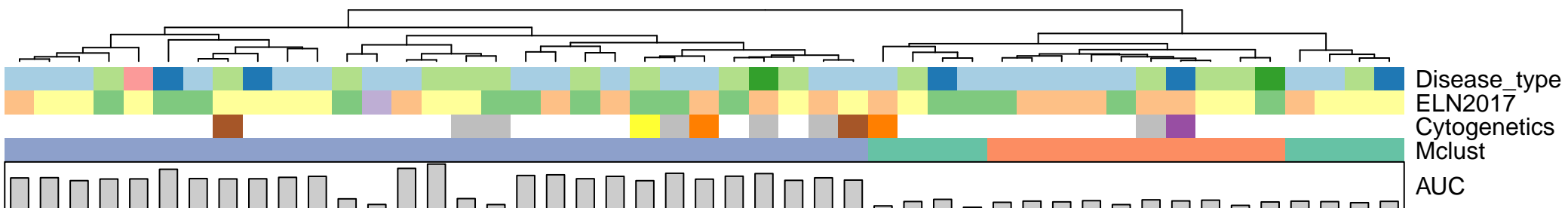


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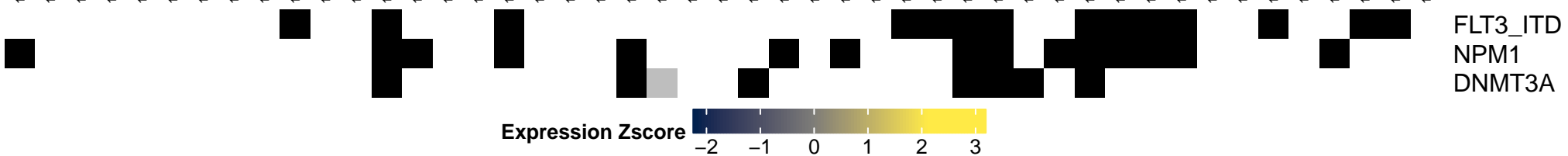
FLT3\_ITD  
 NPM1  
 DNMT3A



# Significant Gene Expression for Gilteritinib (ASP-2215) Response (n=47)

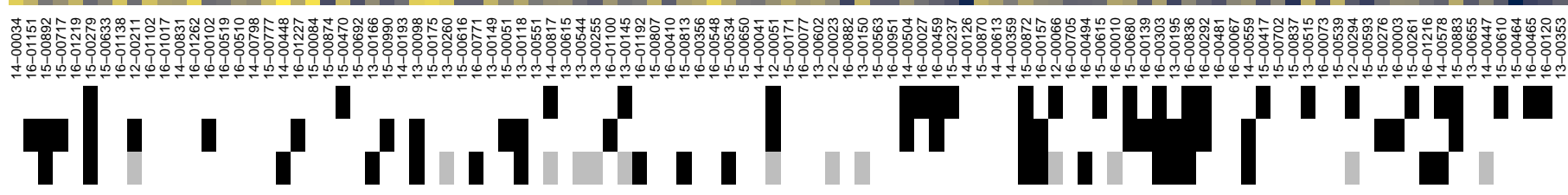
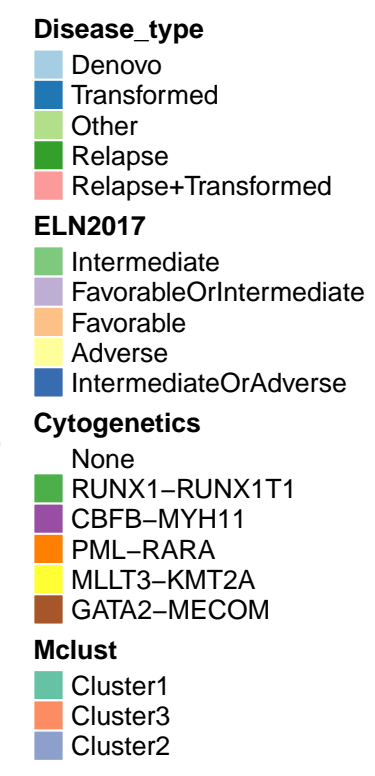
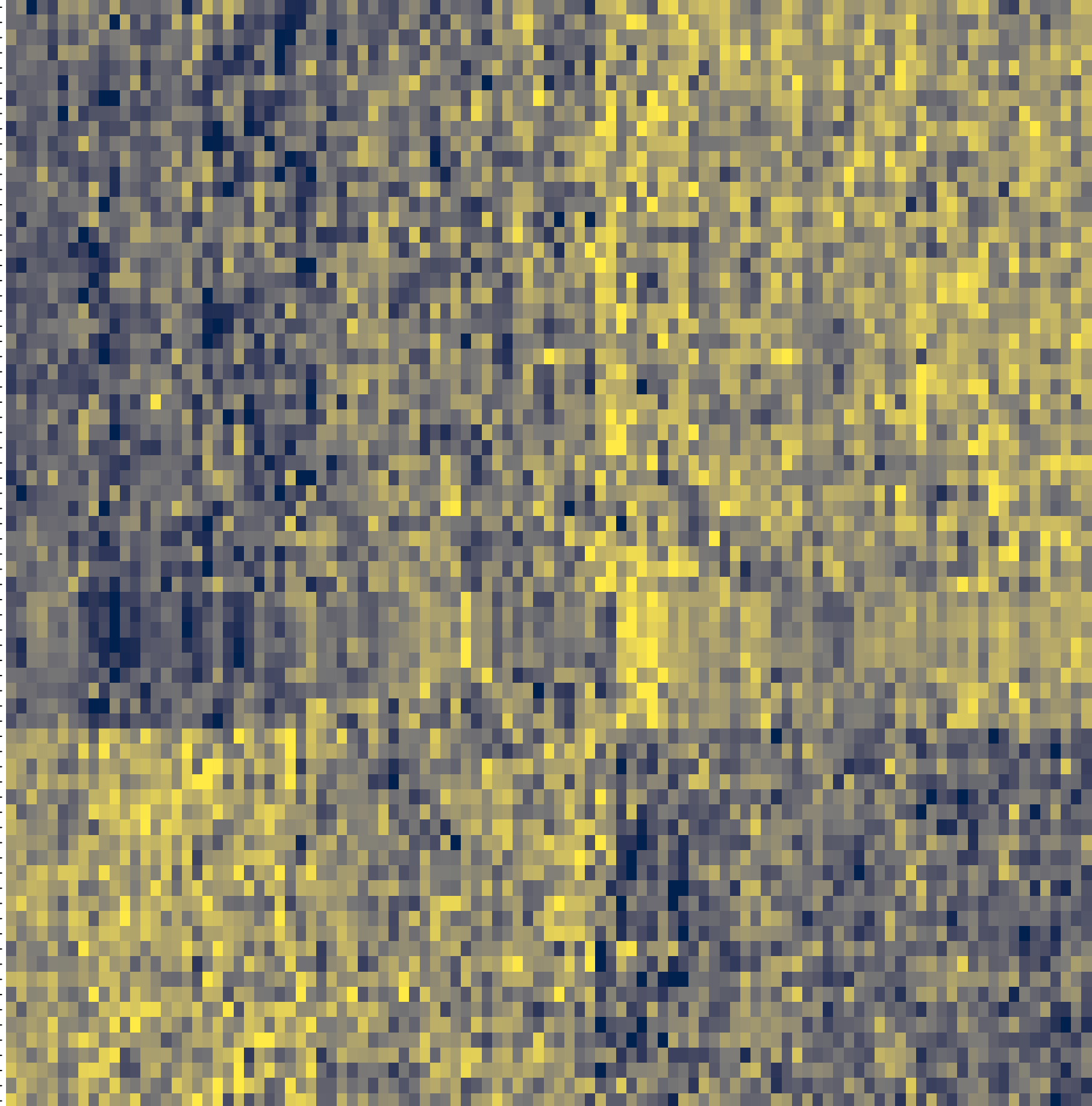
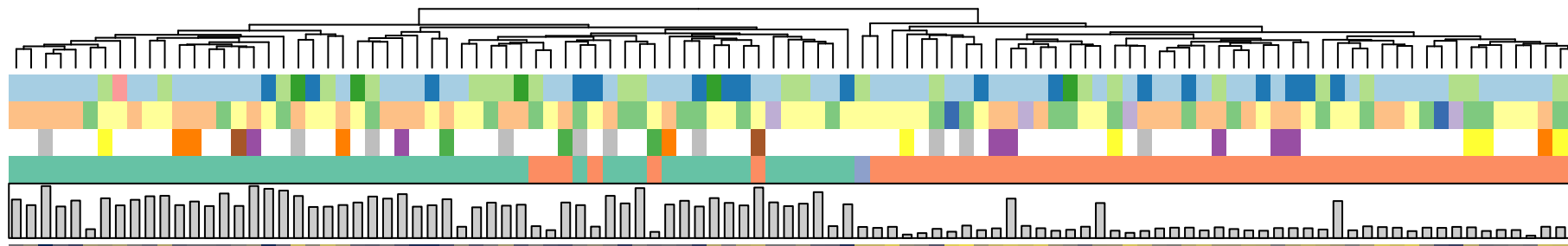


3 Genes

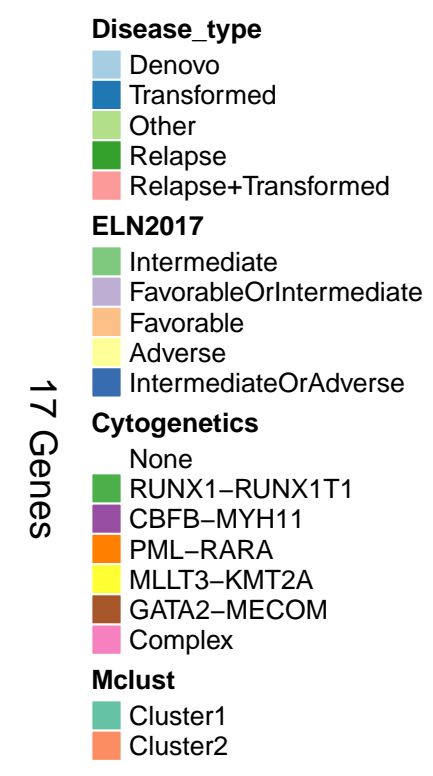
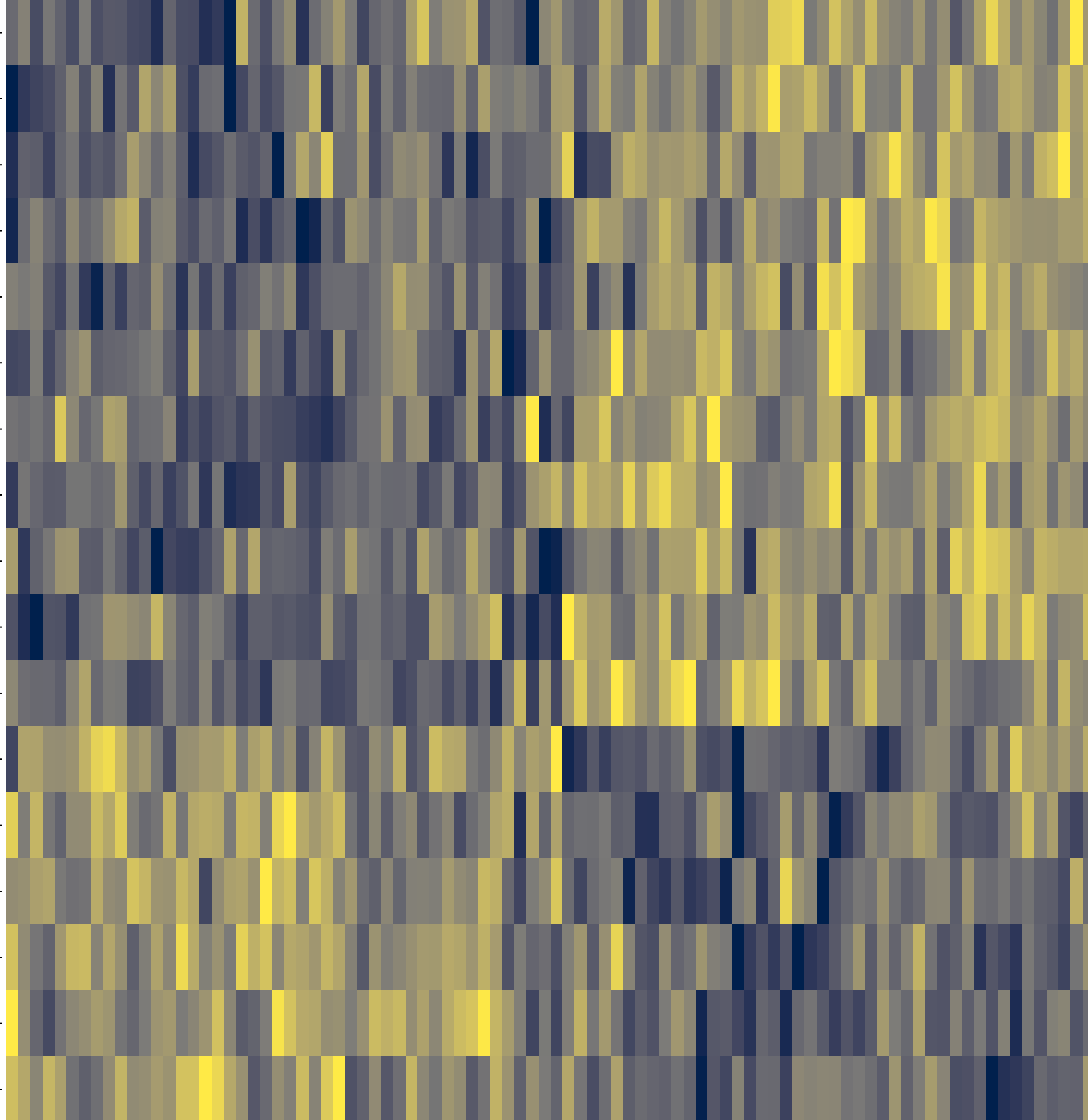
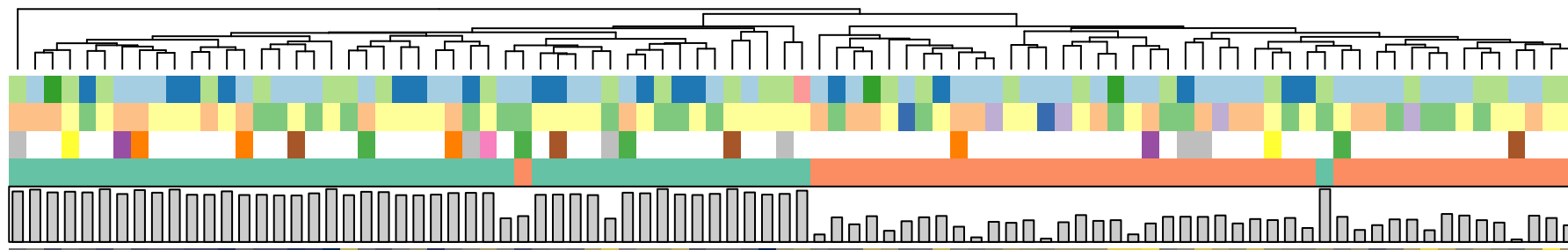




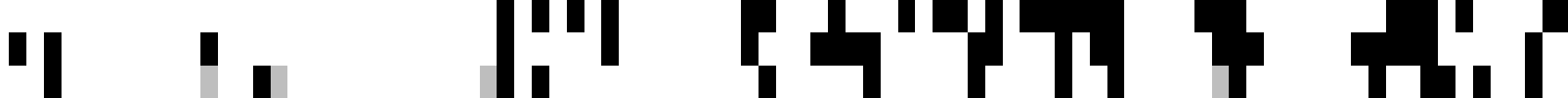
# Significant Gene Expression for INK-128 Response (n=106)



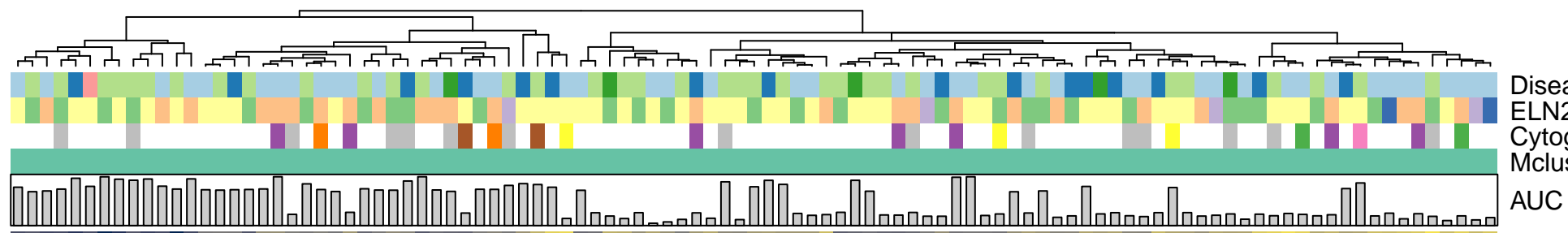
# Significant Gene Expression for Ibrutinib (PCI-32765) Response (n=90)



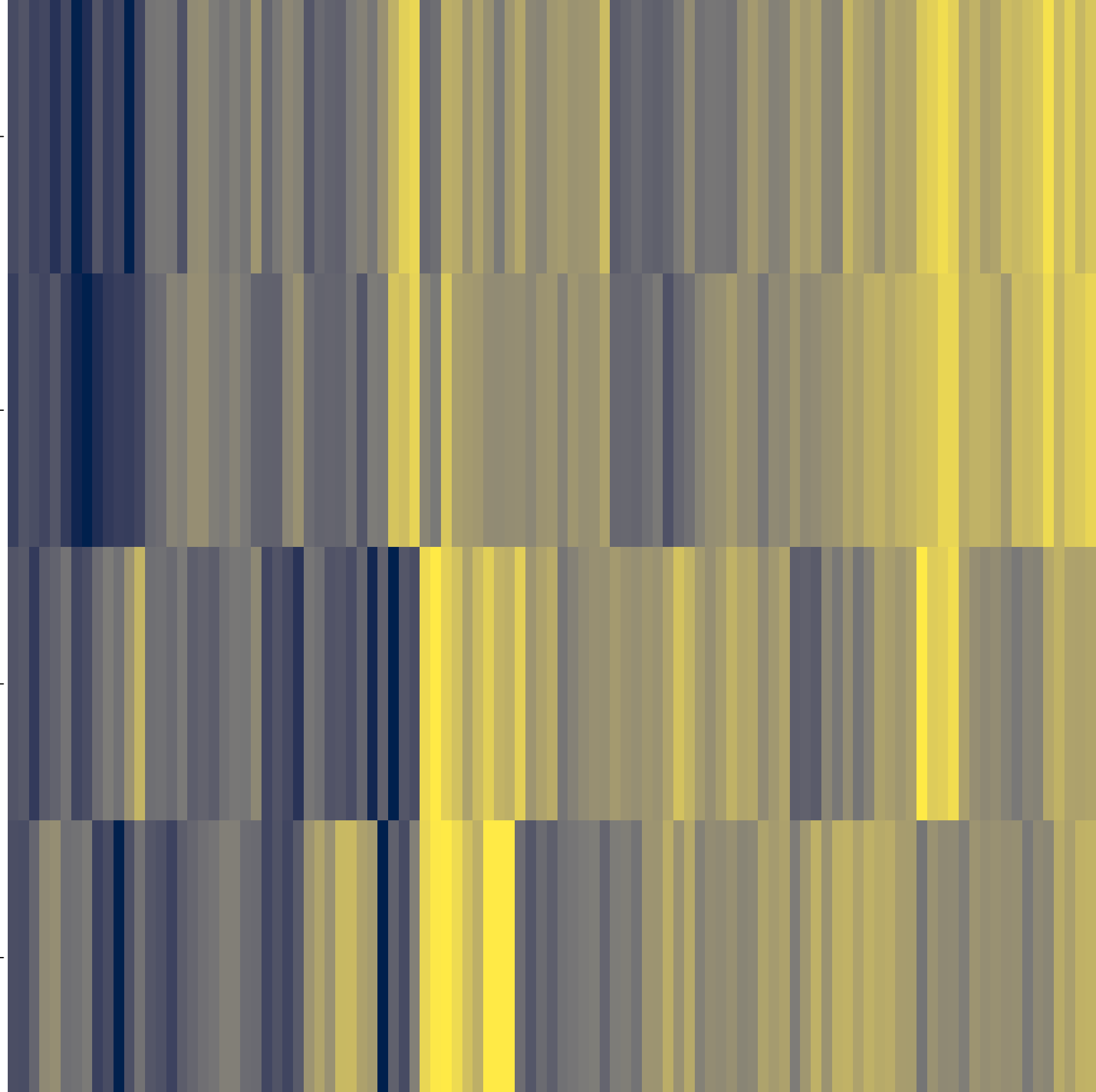
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 13-00552  
 16-01185



# Significant Gene Expression for JNJ-28312141 Response (n=103)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC



**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

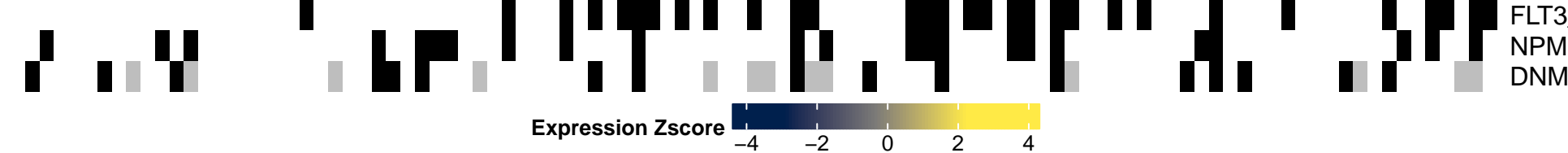
**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CFBF-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex

**Mclust**  
 Cluster1

**4 Genes**

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14-00817  
13-00123  
13-00551  
15-00692  
16-00771  
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16-00001  
16-01010  
15-00680  
16-00836  
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15-00610  
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16-00109  
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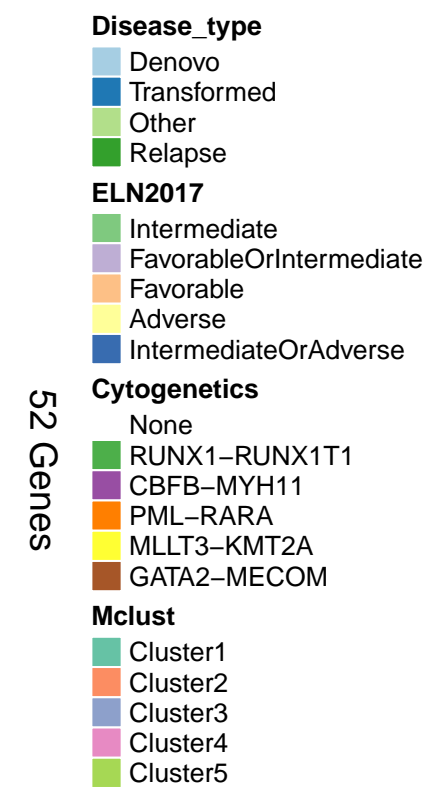
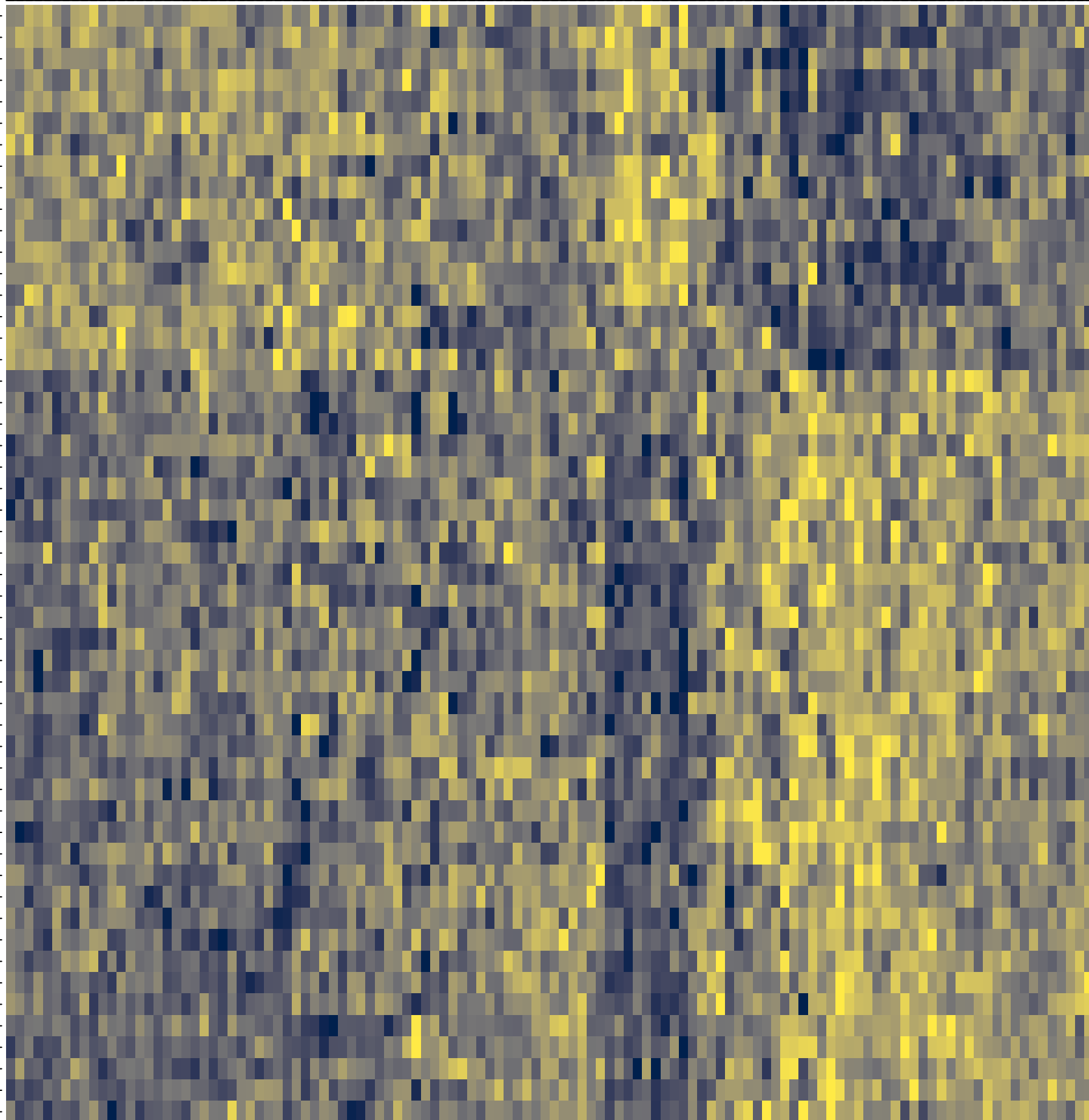
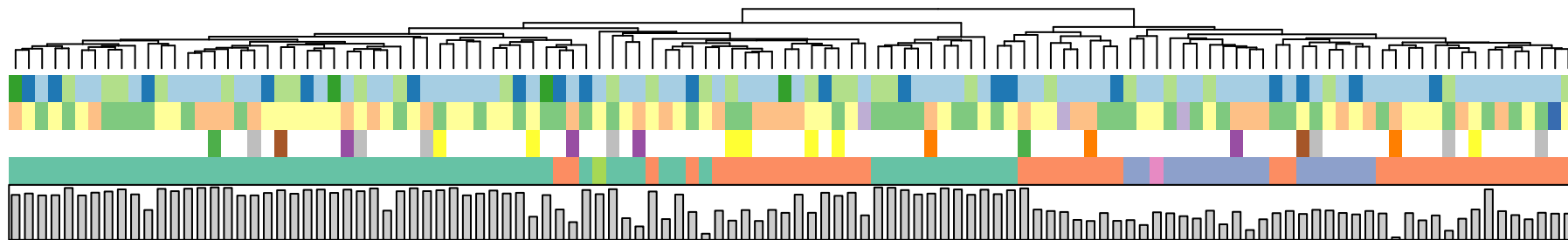
HLA-DMA  
HLA-DPB1  
MMP19  
CCNG1



FLT3\_ITD  
NPM1  
DNMT3A



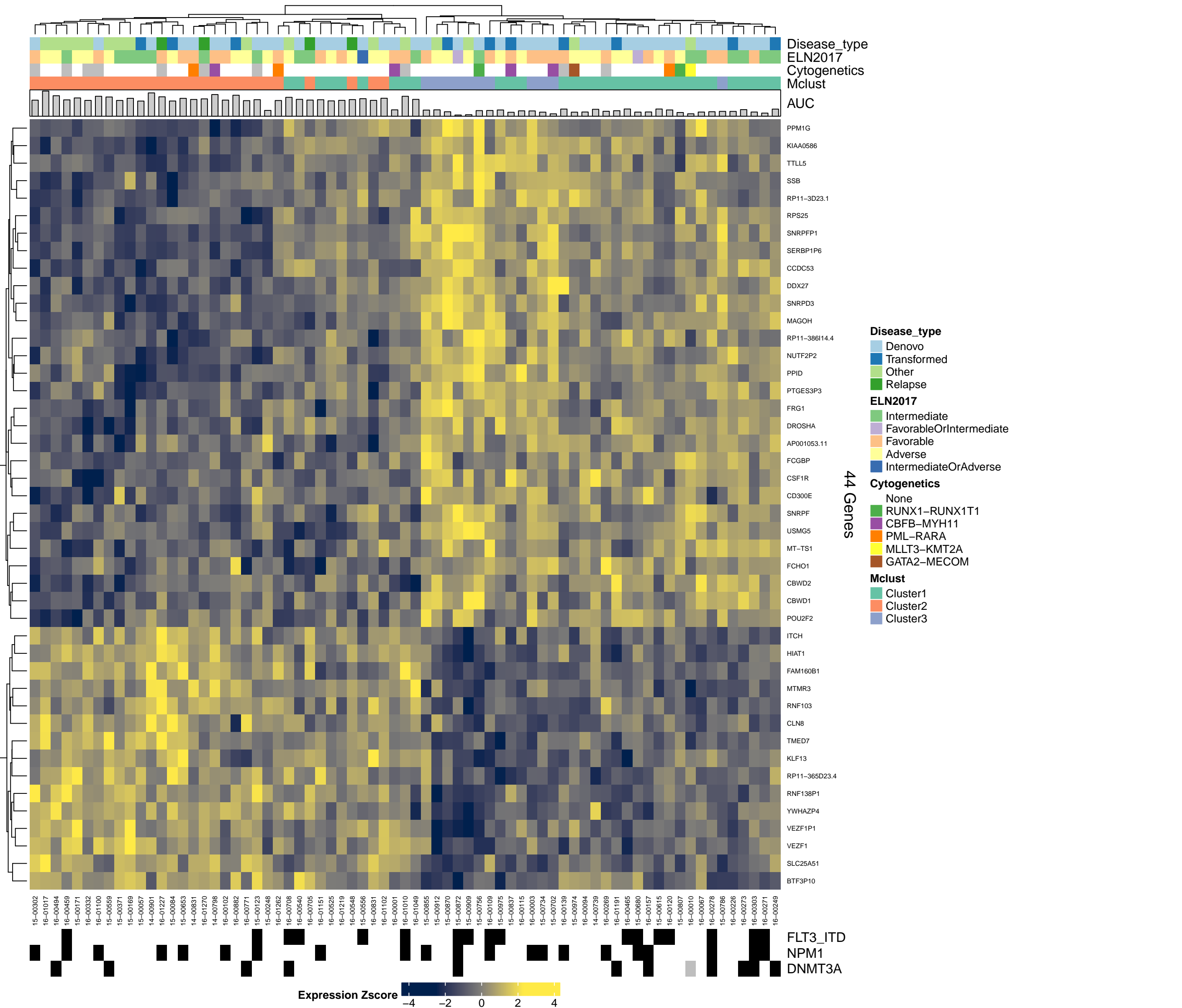
# Significant Gene Expression for JNJ-770621 Response (n=118)



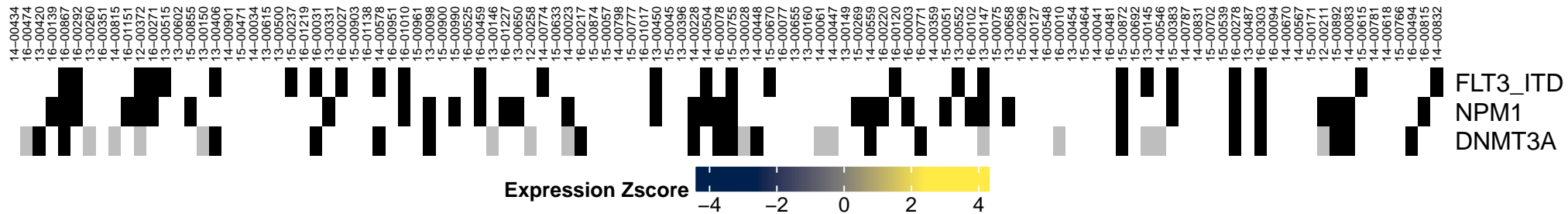
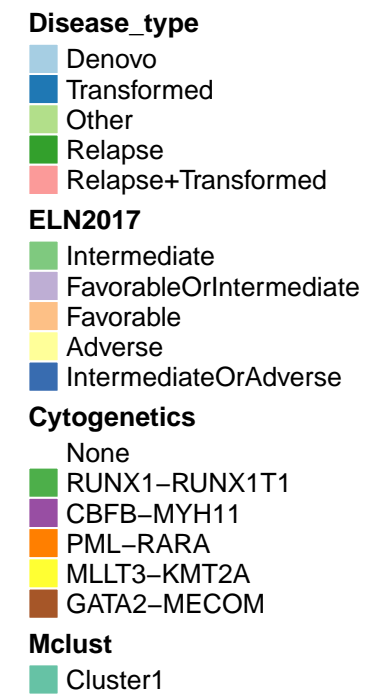
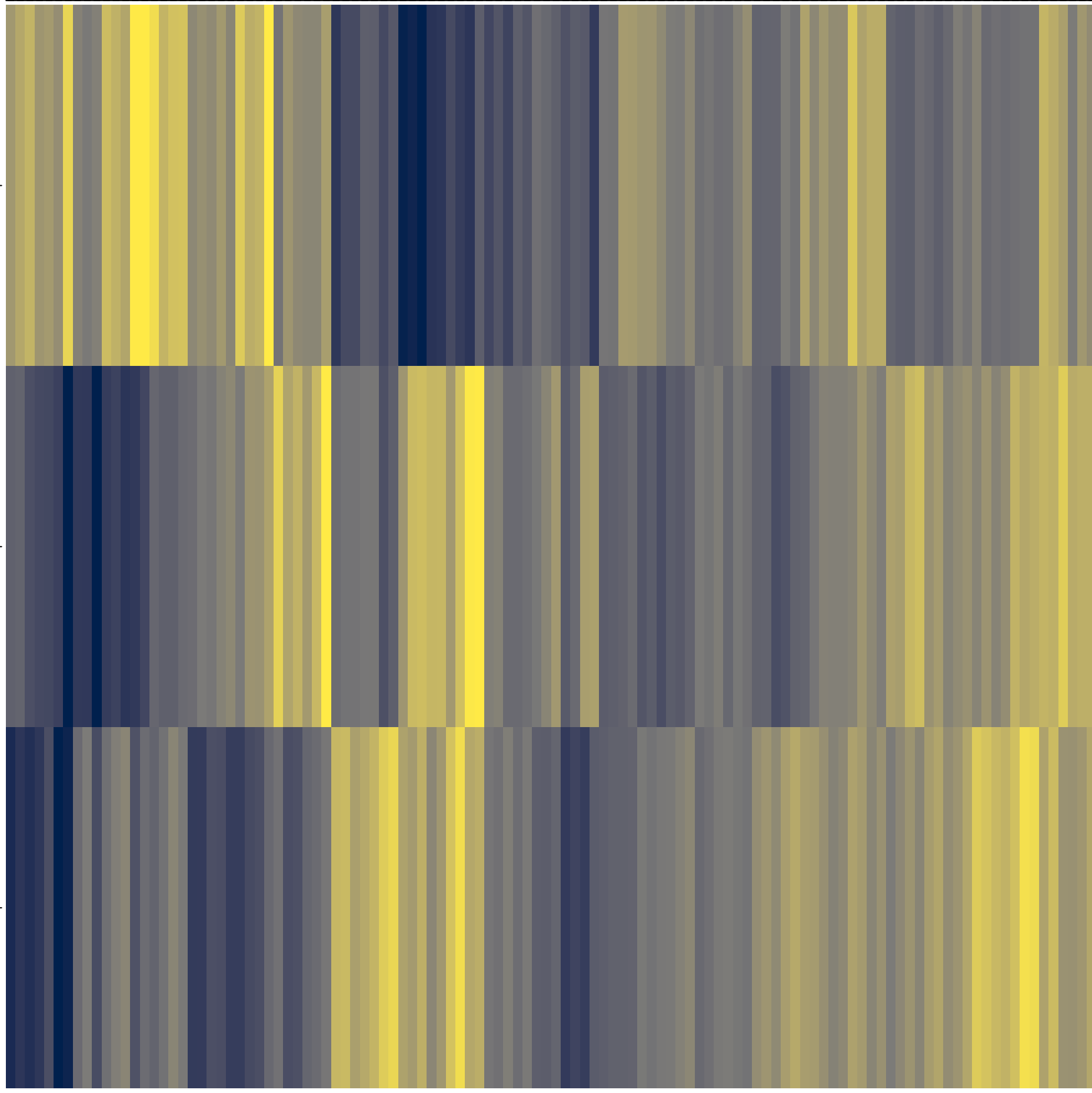
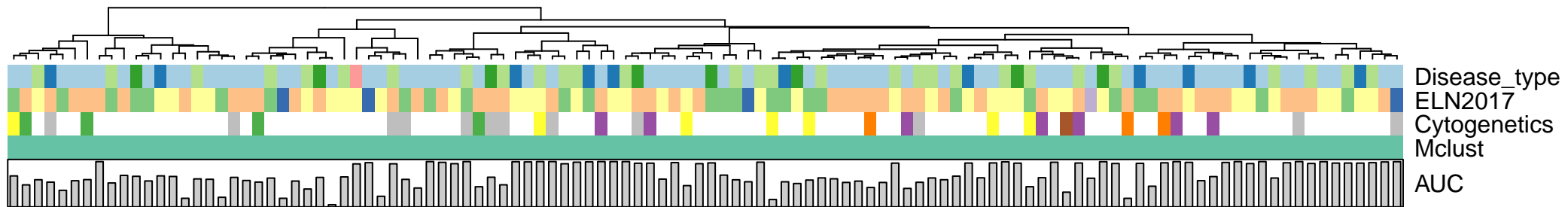
52 Genes



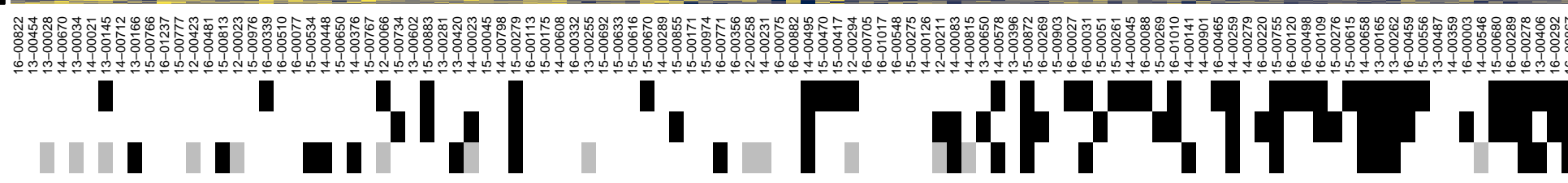
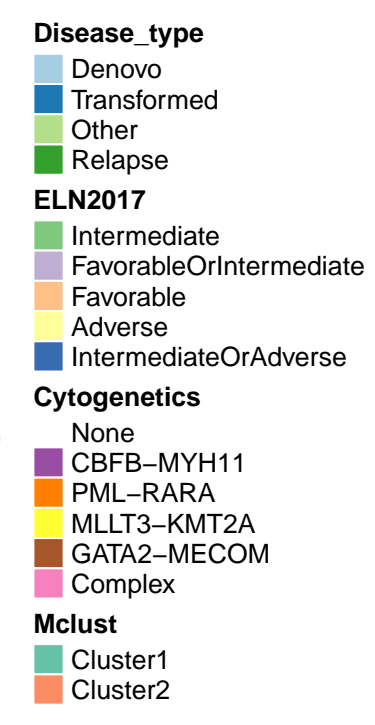
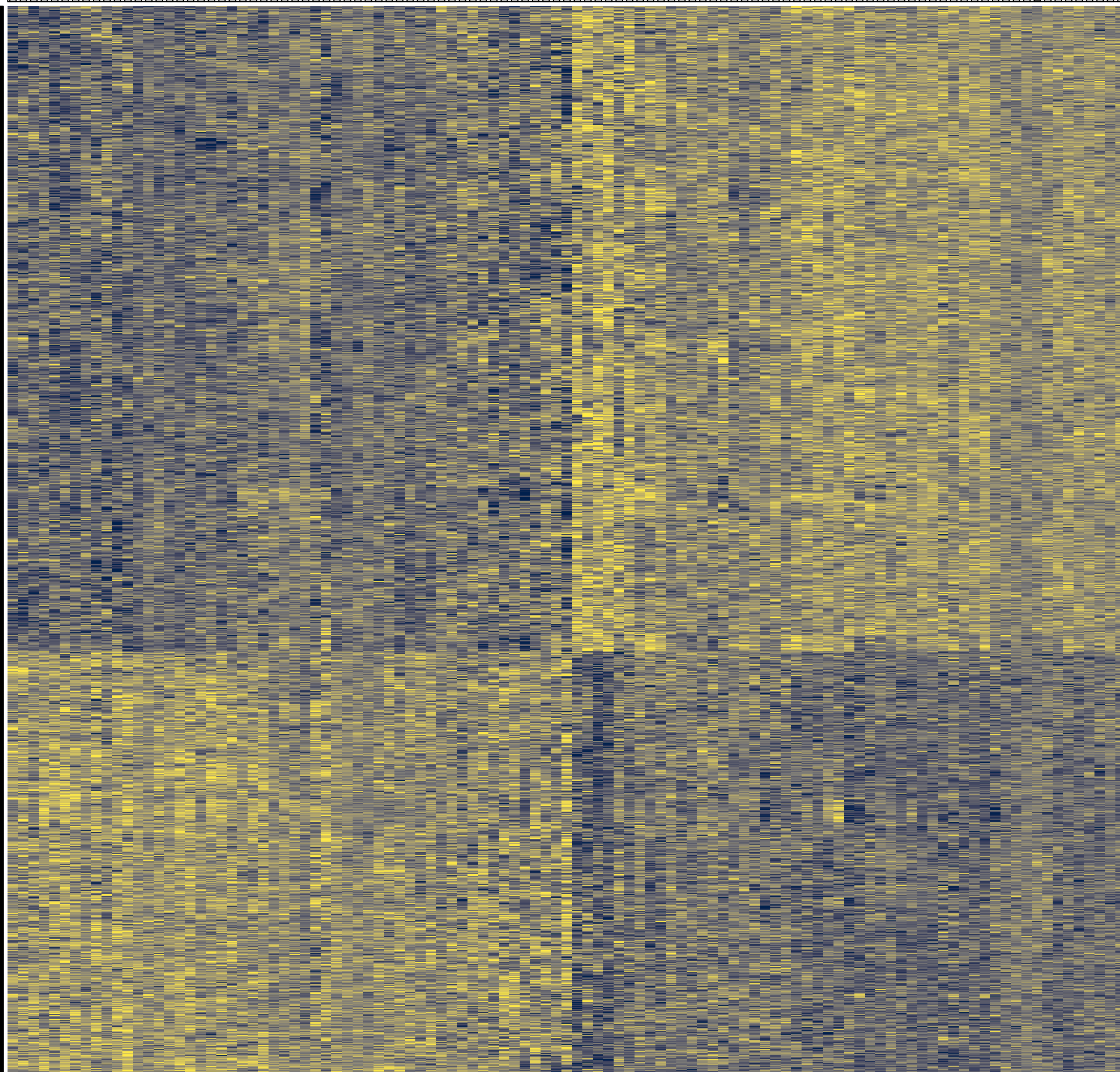
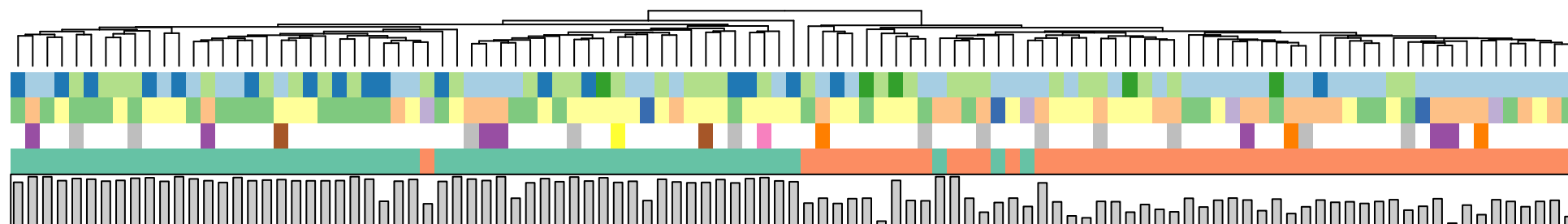
# Significant Gene Expression for JQ1 Response (n=71)



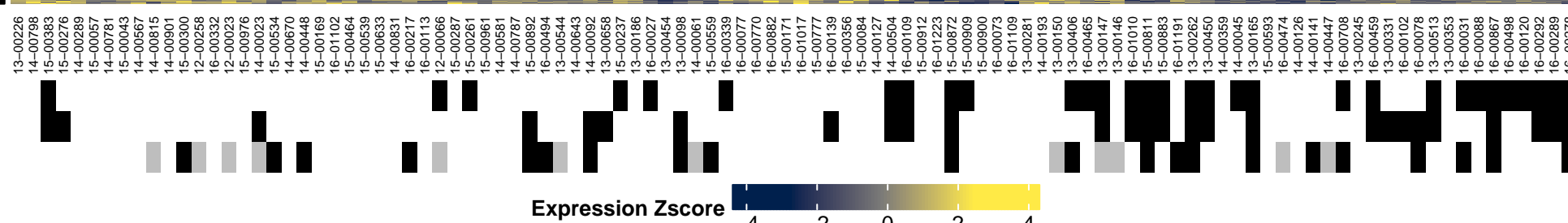
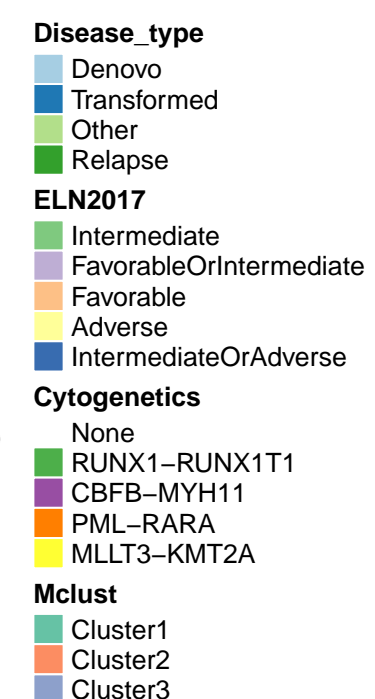
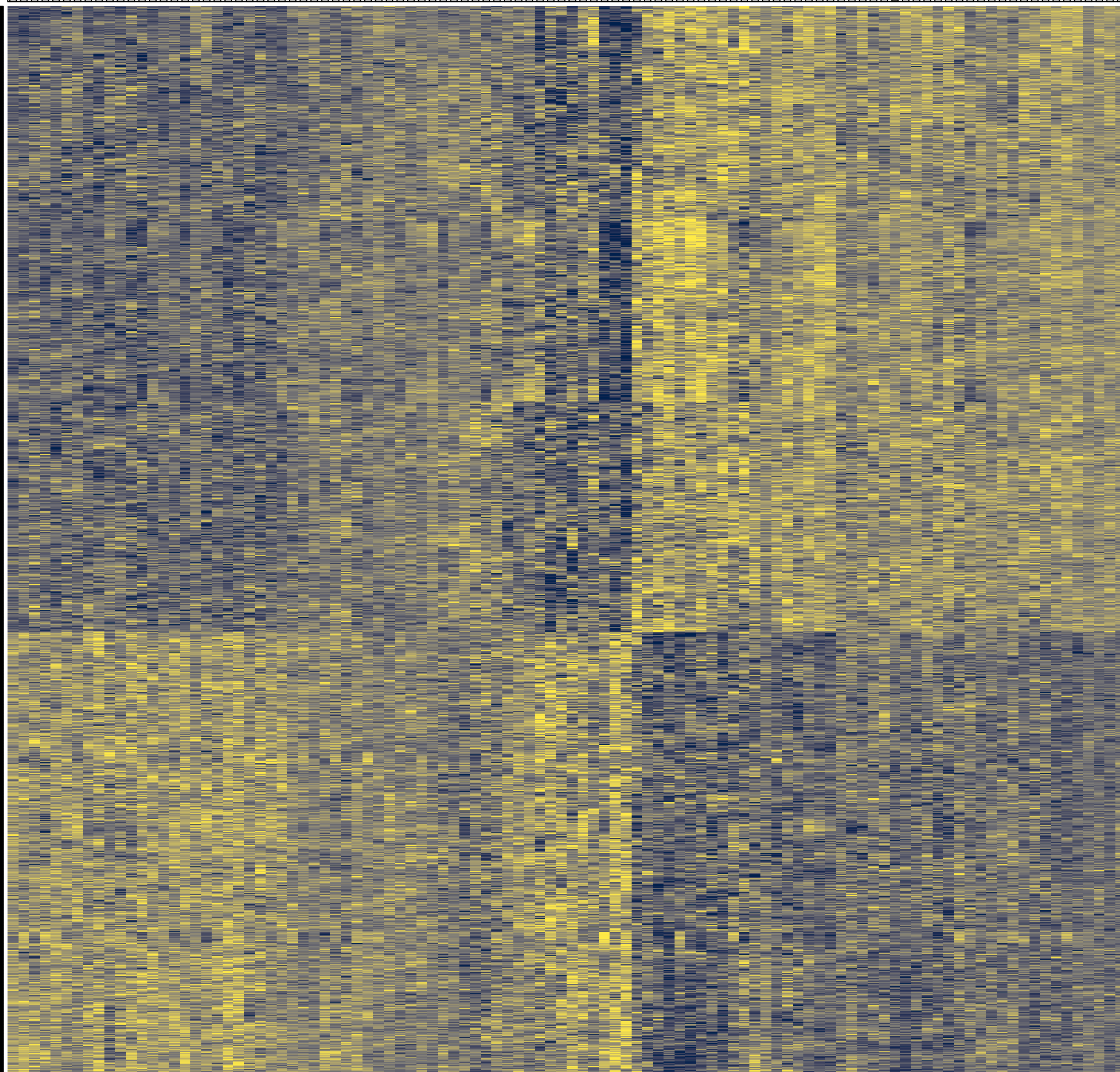
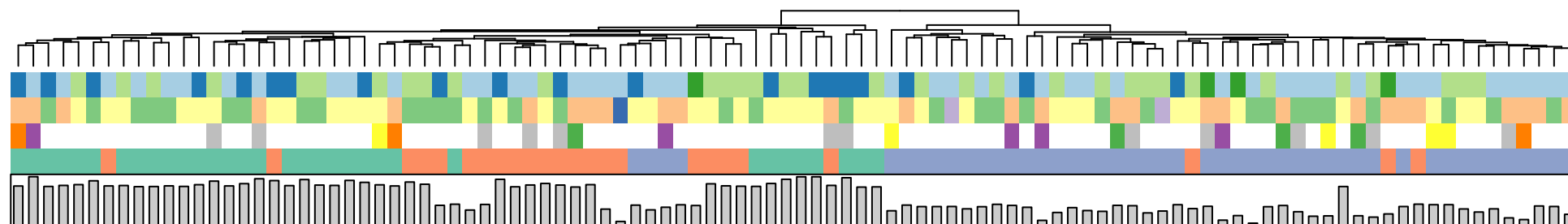
# Significant Gene Expression for KU-55933 Response (n=114)



# Significant Gene Expression for KW-2449 Response (n=107)



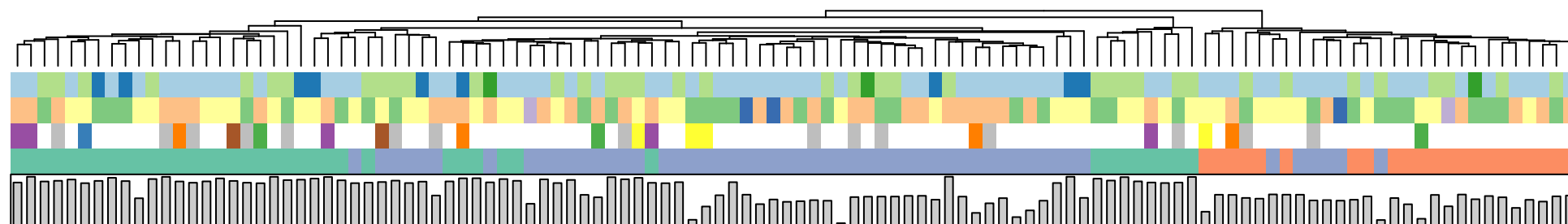
# Significant Gene Expression for LY-333531 Response (n=104)



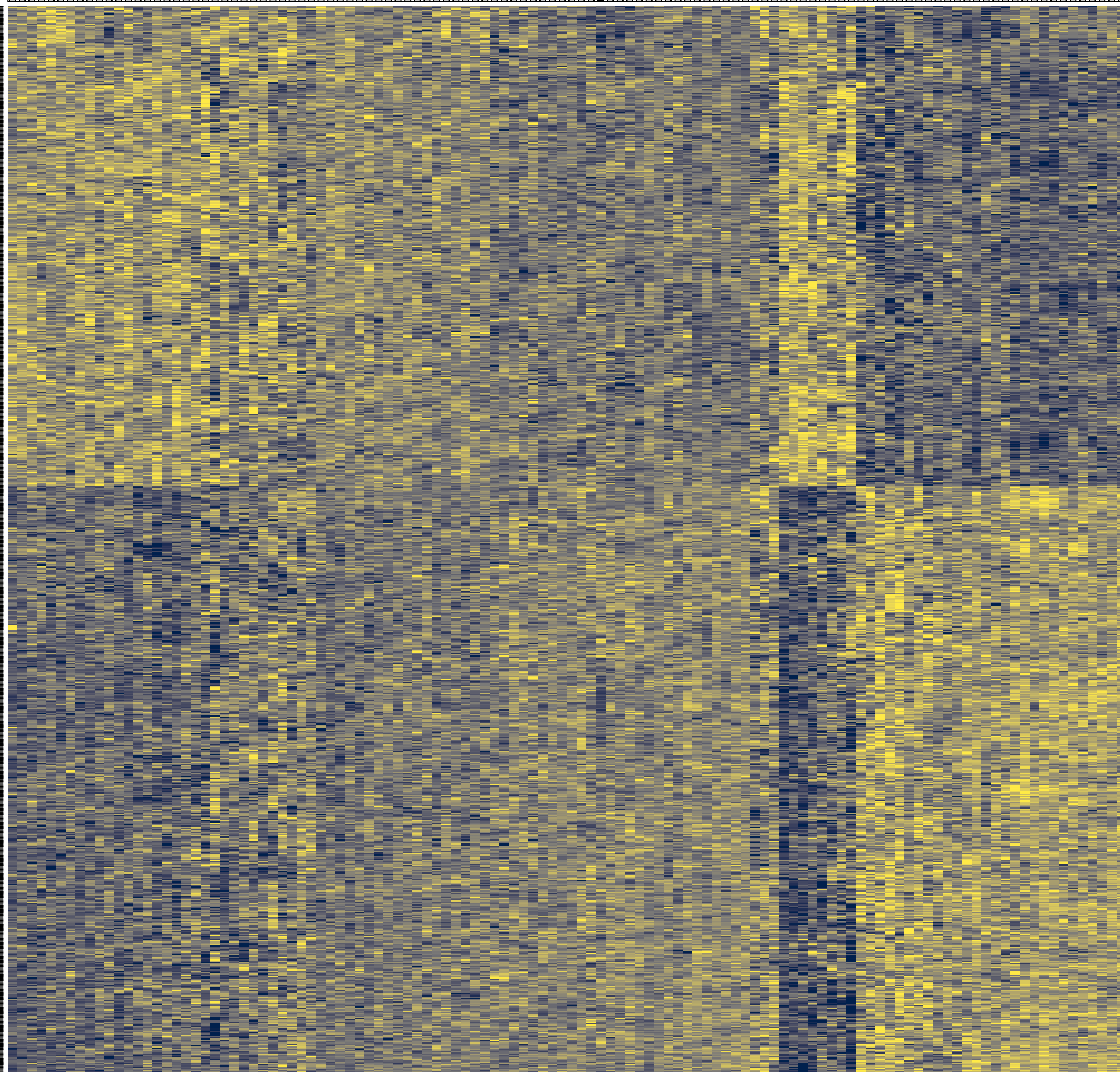
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 14-00901  
 15-00300  
 12-00258  
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 14-00023  
 15-00534  
 14-00670  
 14-00448  
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 16-01102  
 15-00464  
 15-00539  
 15-00633  
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 16-01109  
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 16-00459  
 13-00331  
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 13-00513  
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 16-00498  
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 16-00292  
 16-00289  
 16-00278



# Significant Gene Expression for Lapatinib Response (n=116)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC



**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 DEK-NUP214  
 RUNX1-RUNX1T1  
 CBFβ-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM

**Mclust**  
 Cluster1  
 Cluster2  
 Cluster3

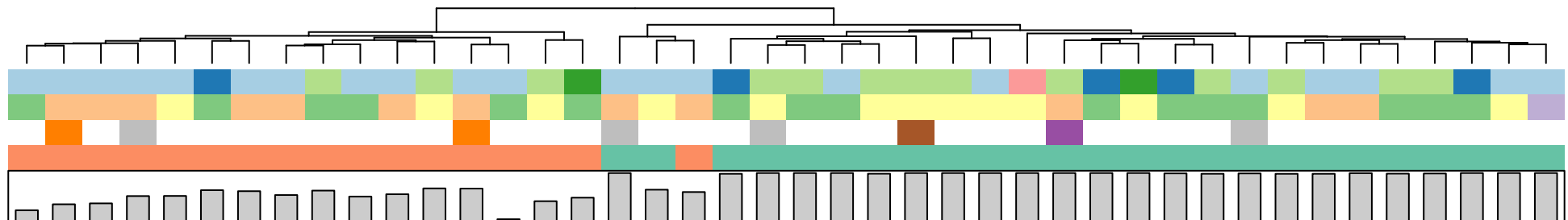
837 Genes

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16-00951  
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16-01192  
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16-00073  
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16-01223  
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15-00085  
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16-01215  
15-00753  
16-00273  
15-00593  
16-00220  
16-00465  
16-00344  
16-00004

FLT3\_ITD  
NPM1  
DNMT3A



# Significant Gene Expression for Lenalidomide Response (n=42)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

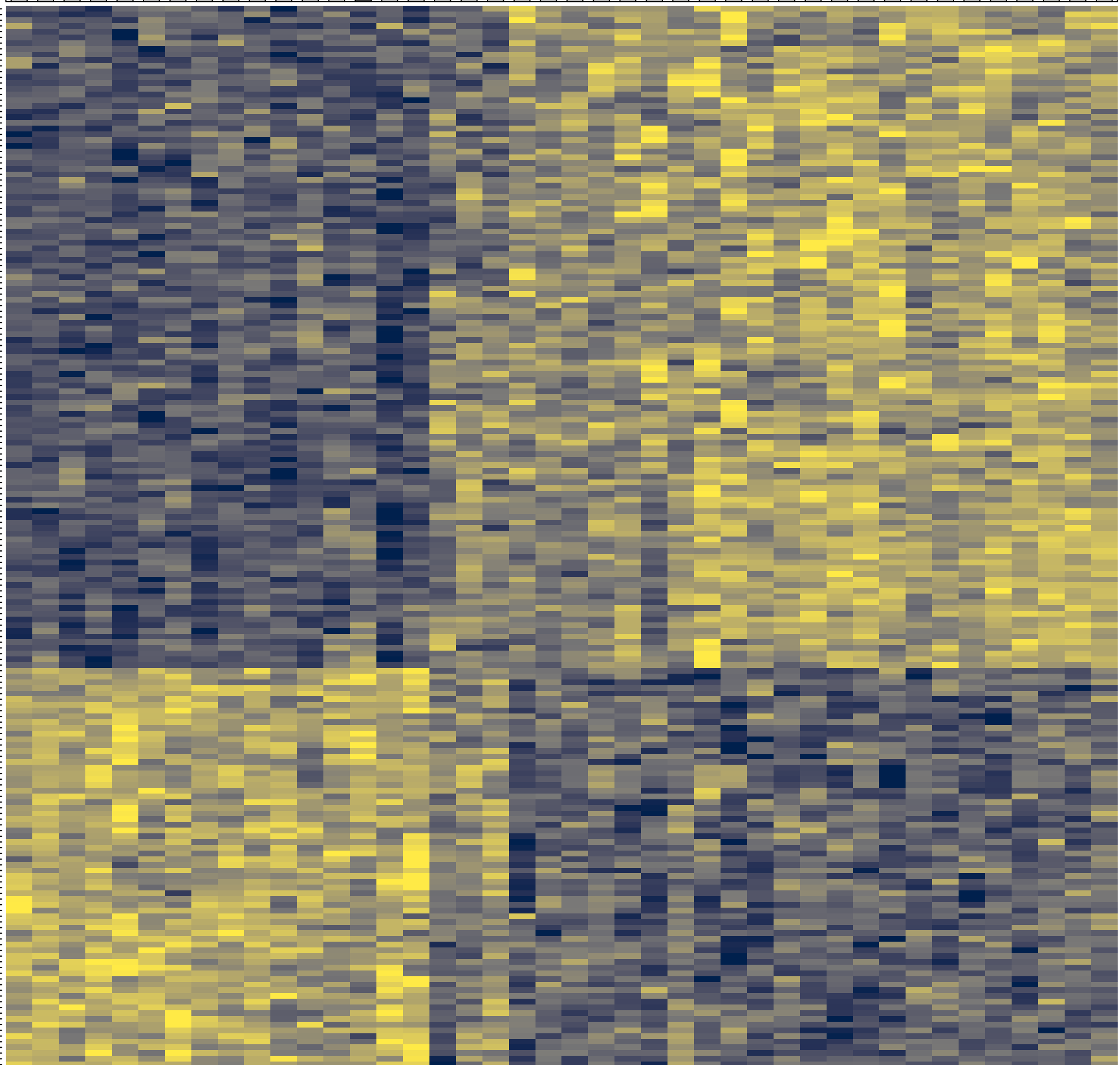
**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse

**Cytogenetics**  
 None  
 CBFB-MYH11  
 PML-RARA  
 GATA2-MECOM

**Mclust**  
 Cluster1  
 Cluster2

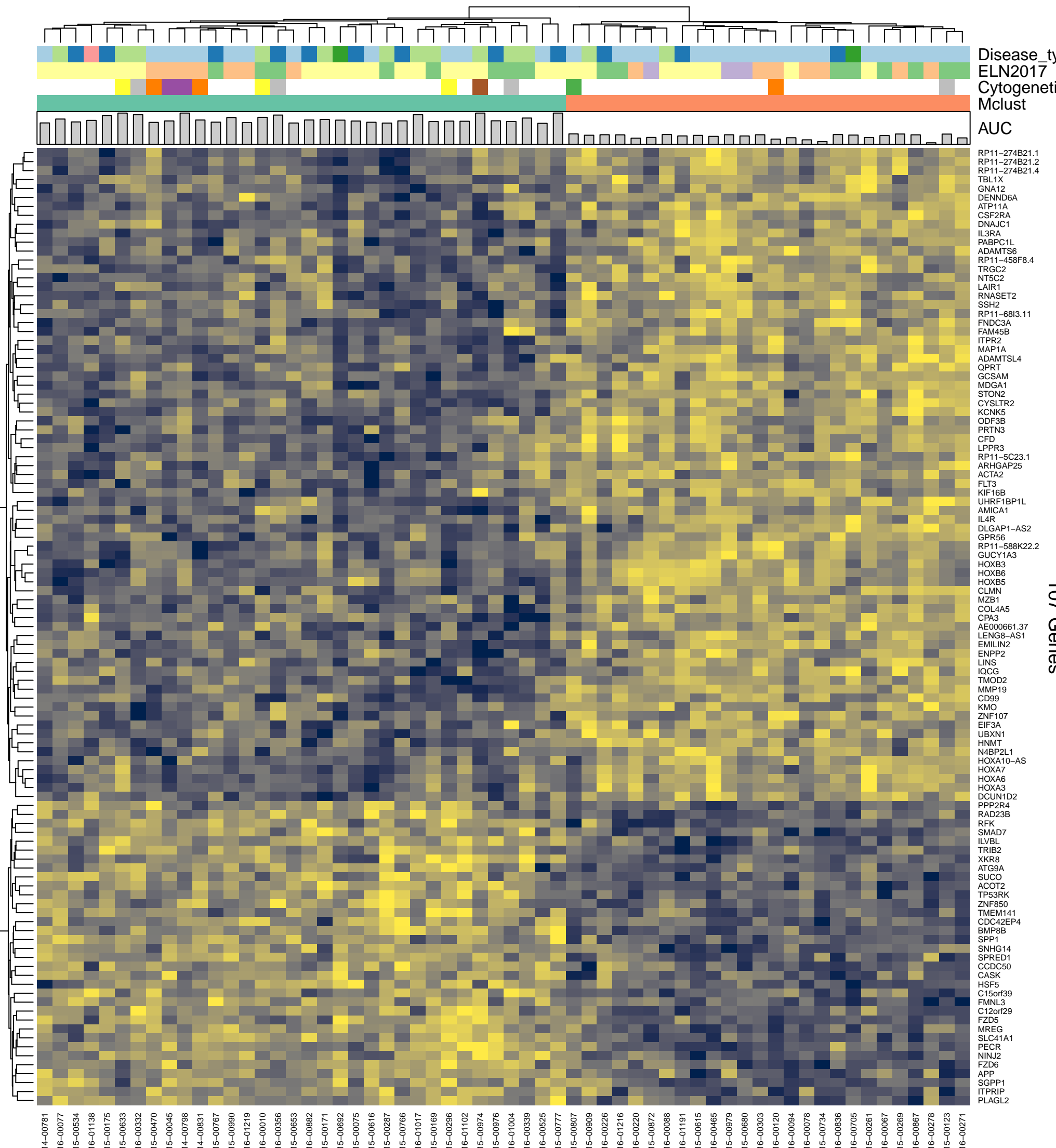
186 Genes



Expression Zscore -4 -2 0 2 4

FLT3\_ITD  
NPM1  
DNMT3A

# Significant Gene Expression for Lenvatinib Response (n=60)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

- RP11-274B21.1
- RP11-274B21.2
- RP11-274B21.4
- TBL1X
- GNA12
- DENND6A
- ATP11A
- CSF2RA
- DNAJC1
- IL3RA
- PABPC1L
- ADAMTS6
- RP11-458F8.4
- TRGC2
- NT5C2
- LAIR1
- RNASET2
- SSH2
- RP11-6813.11
- FNDC3A
- FAM45B
- ITPR2
- MAP1A
- ADAMTSL4
- QPRT
- GCSAM
- MDGA1
- STON2
- CYSLTR2
- KCNK5
- ODF3B
- PRTN3
- CFD
- LPPR3
- RP11-5C23.1
- ARHGAP25
- ACTA2
- FLT3
- KIF16B
- UHRF1BP1L
- AMICA1
- IL4R
- DLGAP1-AS2
- GPR56
- RP11-588K22.2
- GUCY1A3
- HOXB3
- HOXB6
- HOXB5
- CLMN
- MZB1
- COL4A5
- CPA3
- AE000661.37
- LENG8-AS1
- EMILIN2
- ENPP2
- LINS
- IQCG
- TMOD2
- MMP19
- CD99
- KMO
- ZNF107
- EIF3A
- UBXN1
- HNMT
- N4BP2L1
- HOXA10-AS
- HOXA7
- HOXA6
- HOXA3
- DCLN1D2
- PPP2R4
- RAD23B
- RFK
- SMAD7
- ILVBL
- TRIB2
- XKR8
- ATG9A
- SUCO
- ACOT2
- TP53RK
- ZNF850
- TMEM141
- CDC42EP4
- BMP8B
- SPP1
- SNHG14
- SPRED1
- CCDC50
- CASK
- HSF5
- C15orf39
- FMNL3
- C12orf29
- FZD5
- MREG
- SLC41A1
- PECR
- NINJ2
- FZD6
- APP
- SGPP1
- ITPRIP
- PLAGL2

107 Genes

**Disease\_type**

- Denovo
- Transformed
- Other
- Relapse
- Relapse+Transformed

**ELN2017**

- Intermediate
- FavorableOrIntermediate
- Favorable
- Adverse

**Cytogenetics**

- None
- RUNX1-RUNX1T1
- CBFB-MYH11
- PML-RARA
- MLLT3-KMT2A
- GATA2-MECOM

**Mclust**

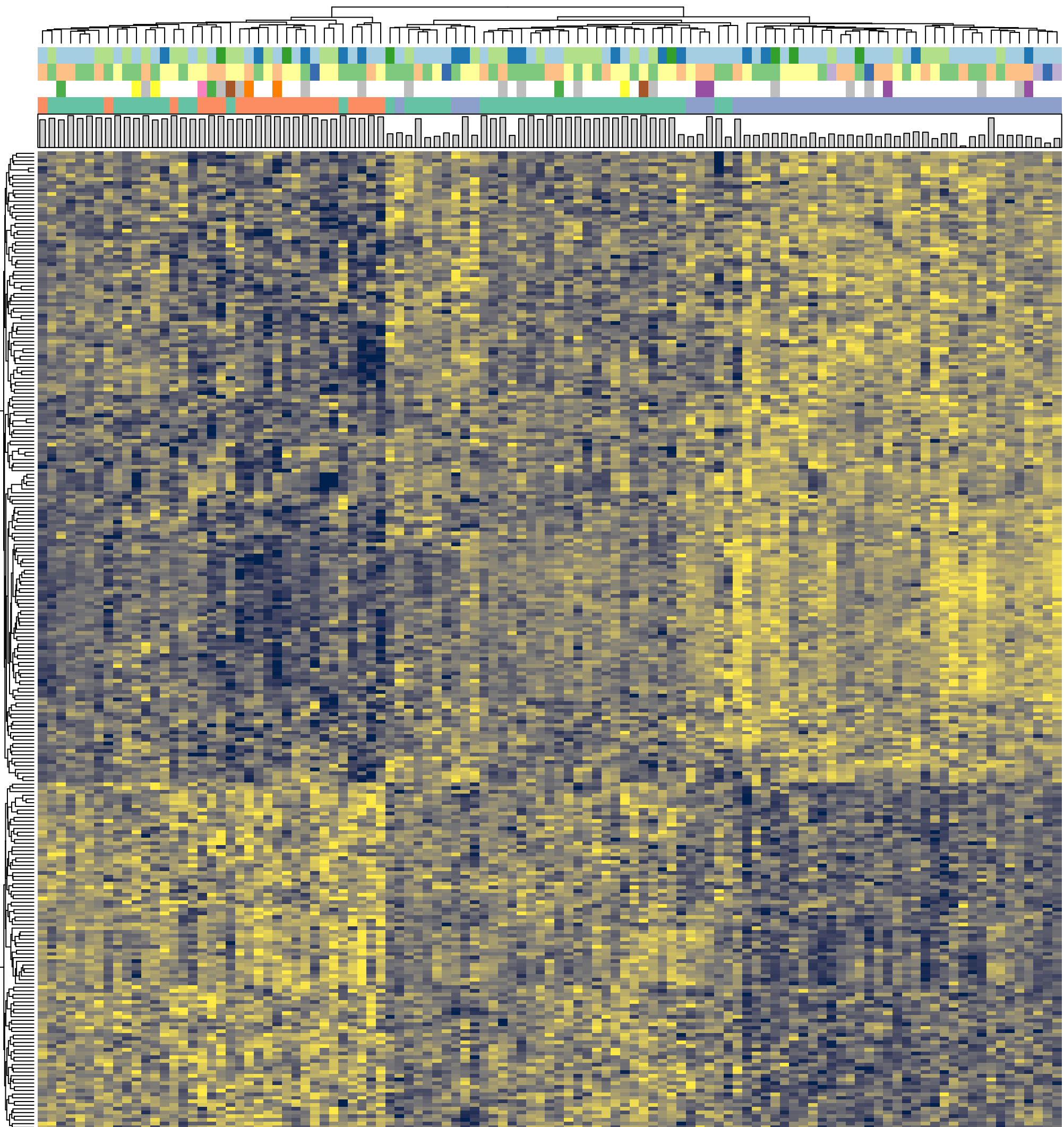
- Cluster1
- Cluster2

- 14-00781
- 16-00077
- 15-00534
- 16-01138
- 15-00175
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- 16-00332
- 15-00470
- 15-00045
- 14-00798
- 14-00831
- 15-00767
- 15-00990
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- 16-00705
- 15-00261
- 16-00067
- 15-00269
- 16-00867
- 16-00278
- 15-00123
- 16-00271

FLT3\_ITD  
NPM1  
DNMT3A



# Significant Gene Expression for Linifanib (ABT-869) Response (n=109)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CBFB-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex

**Mclust**  
 Cluster1  
 Cluster3  
 Cluster2

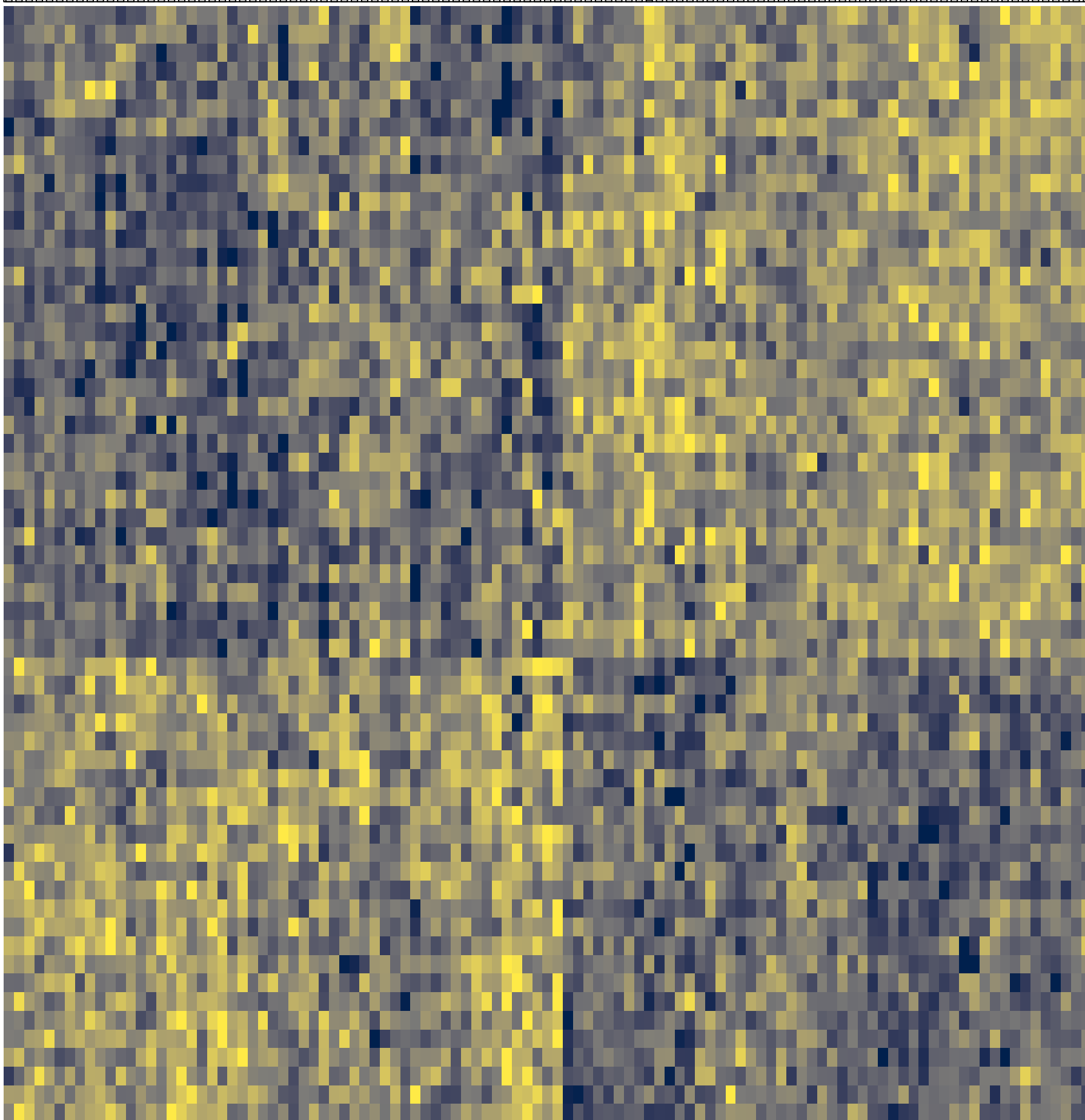
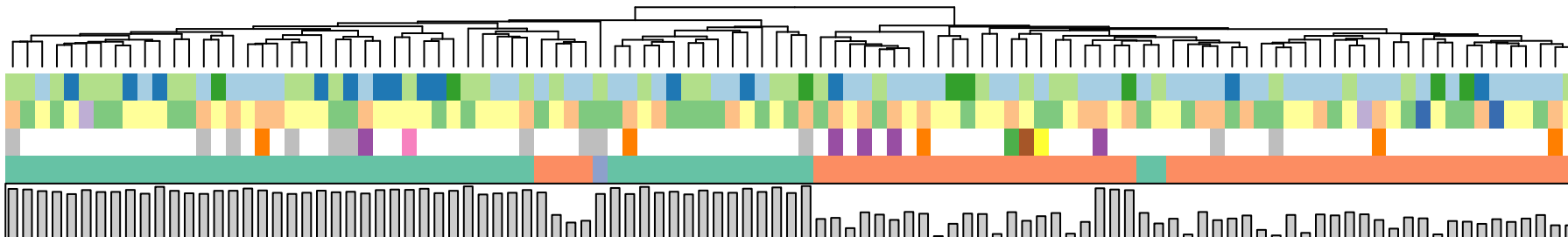
265 Genes

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FLT3\_ITD  
NPM1  
DNMT3A

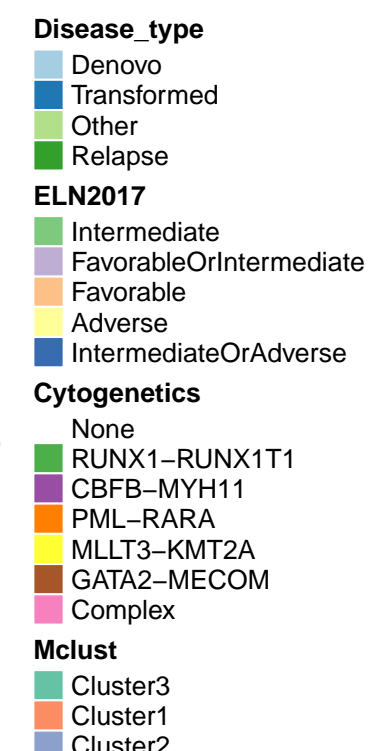
Expression Zscore -4 -2 0 2 4

# Significant Gene Expression for MGCD-265 Response (n=107)



**Disease\_type**  
**ELN2017**  
**Cytogenetics**  
**Mclust**

RFTN1  
FAM124A  
S100Z  
RP11-588K22.2  
CD37  
MAP1A  
DAPK1  
WDR46  
ITPA  
IVD  
ARMC10P1  
TRIM65  
MRPS25  
CAD  
RPL12P8  
RP11-408P14.1  
RP1-273G13.2  
BZW2  
ZNF74  
PRIMPOL  
KIAA1919  
TRAF4  
RDH13  
GSS  
PMVK  
SCAMP3  
SLC27A4  
GALK1  
RBM4B  
LSM7  
MRPS26  
NOP56  
MRPL24  
TYSND1  
HUS1  
JDP2  
SPC25  
CLDN12  
CLGN  
ST7-AS1  
SENP2  
SLC22A20  
KLF5  
MIR223  
KLF7  
MAPKAPK2  
CDA  
CDC42EP4  
BRPF1  
WHAMM  
CORO7  
AP3S1  
OSGIN2  
MOB4  
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FAM169A  
RAB27A  
PDZD8  
CSGALNACT2  
RAB5C

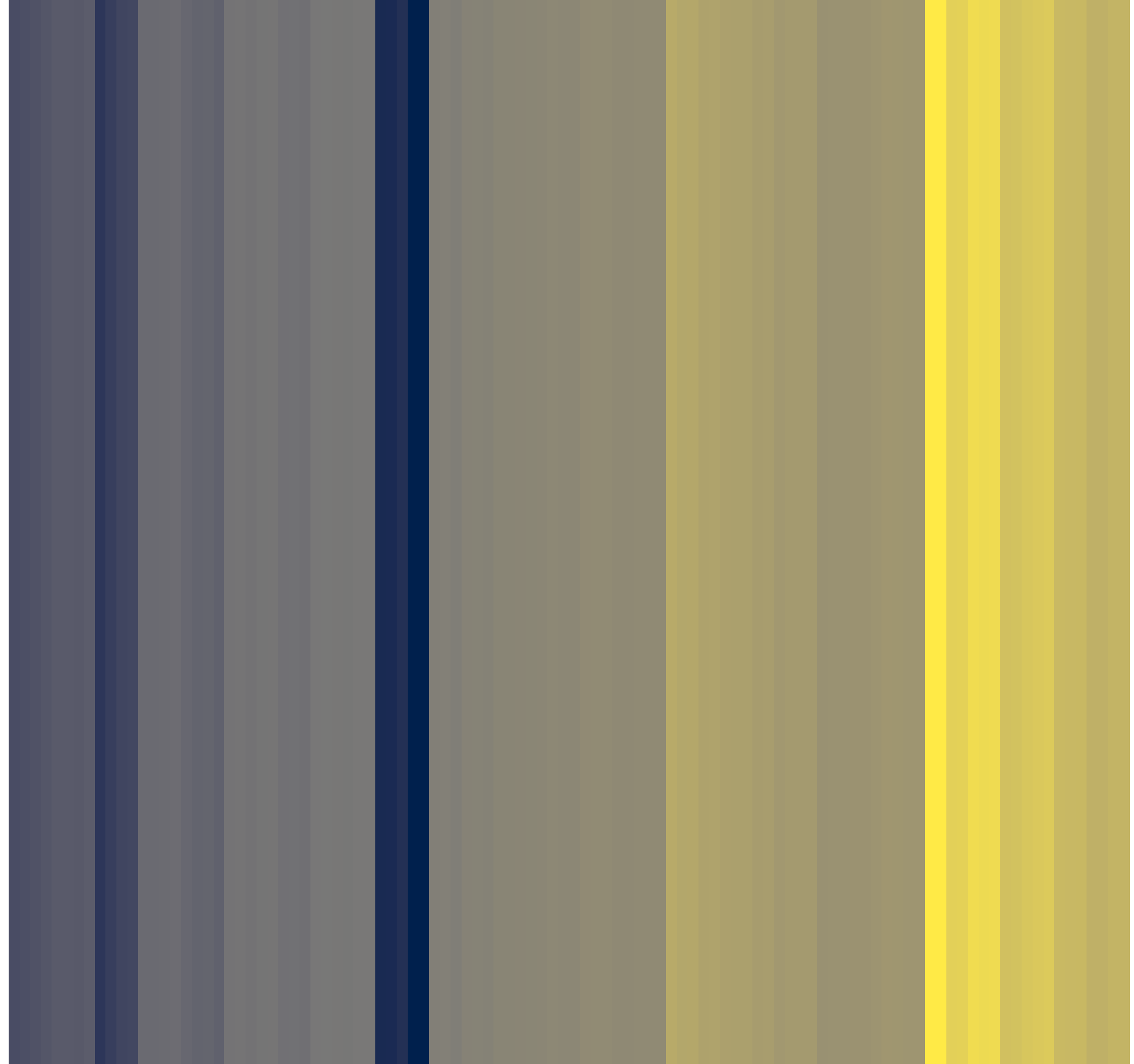
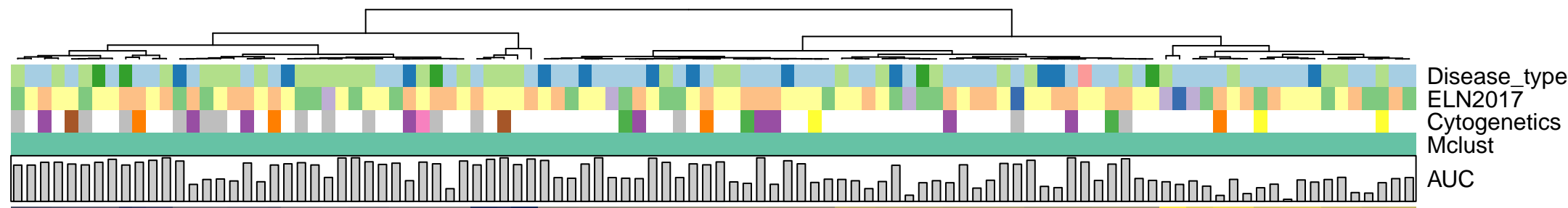


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16-00068

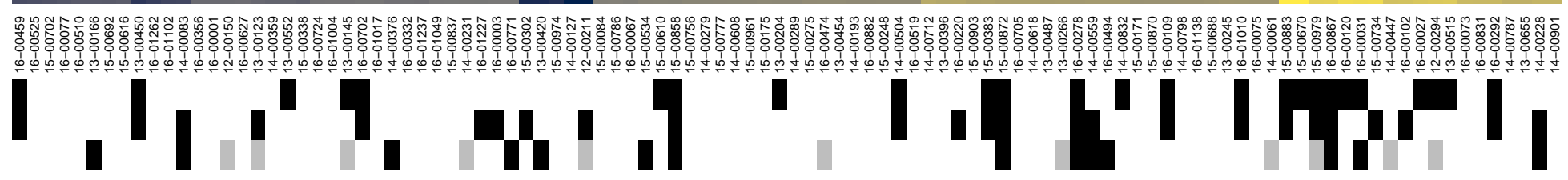
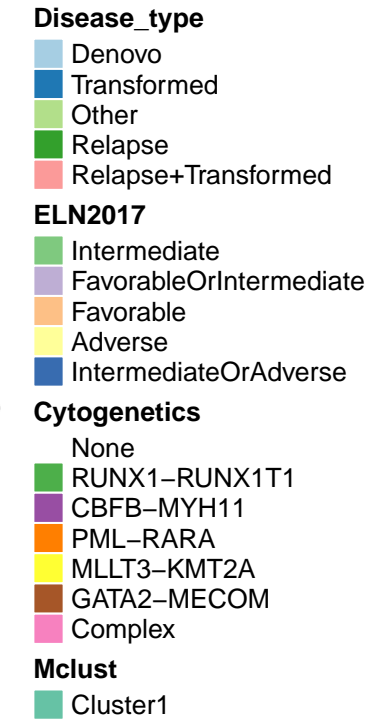
**FLT3\_ITD**  
**NPM1**  
**DNMT3A**



# Significant Gene Expression for Masitinib (AB-1010) Response (n=104)



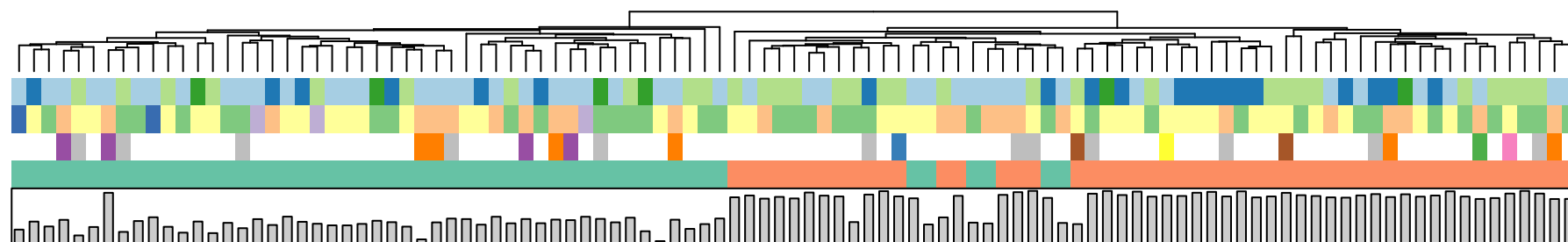
FAM49A  
1 Genes



FLT3\_ITD  
NPM1  
DNMT3A

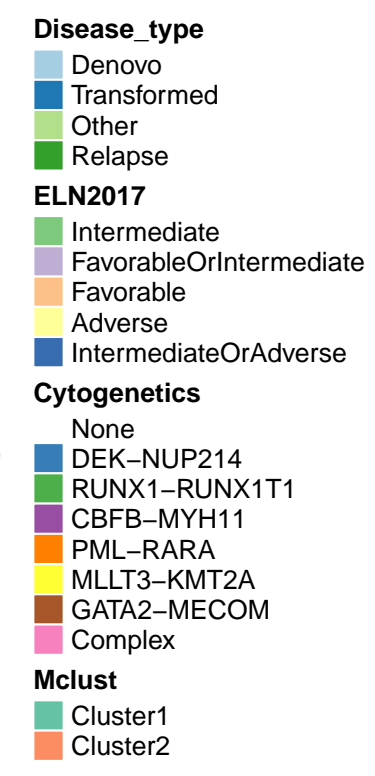


# Significant Gene Expression for Midostaurin Response (n=105)

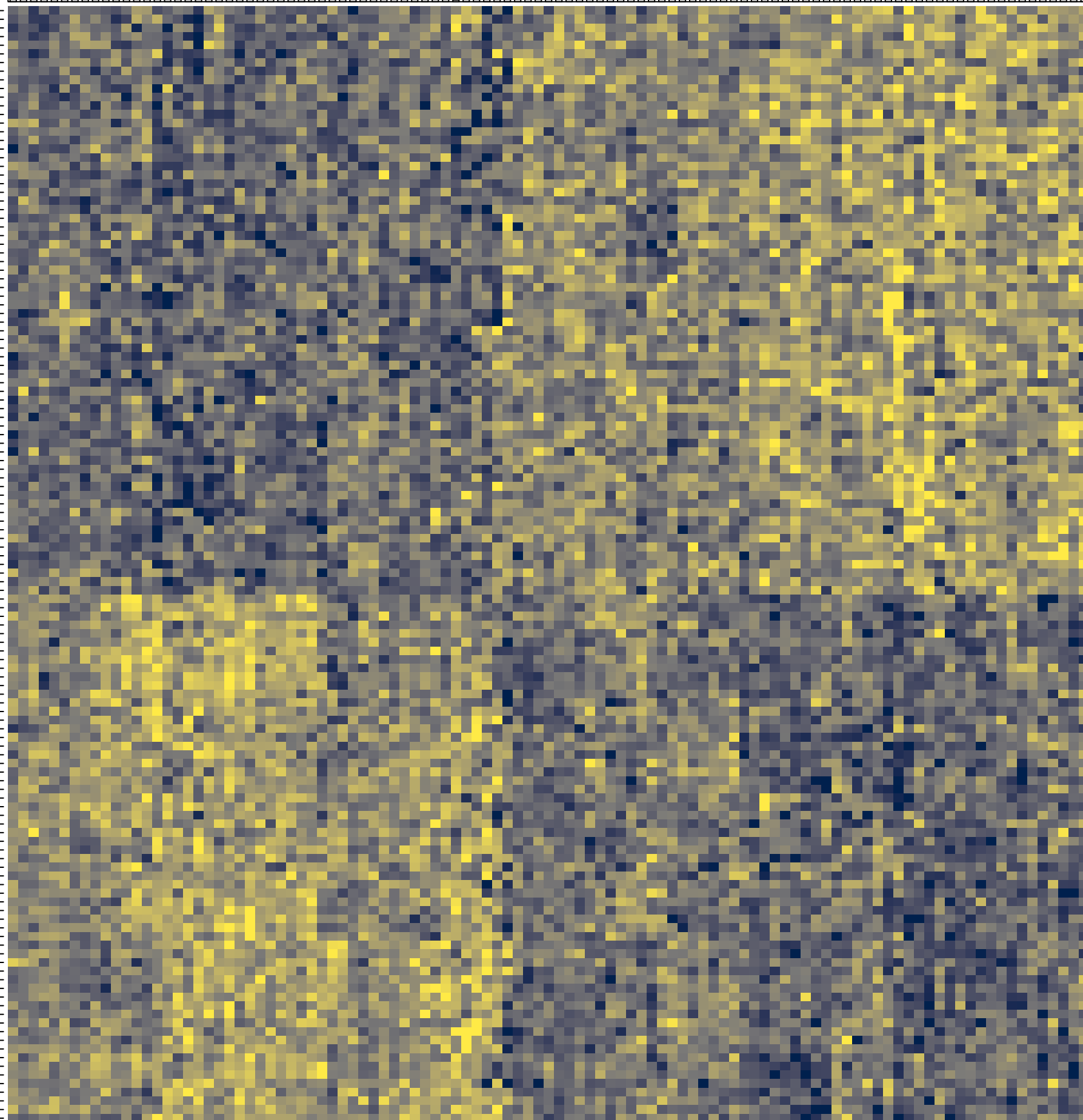


**Disease\_type**  
**ELN2017**  
**Cytogenetics**  
**Mclust**  
**AUC**

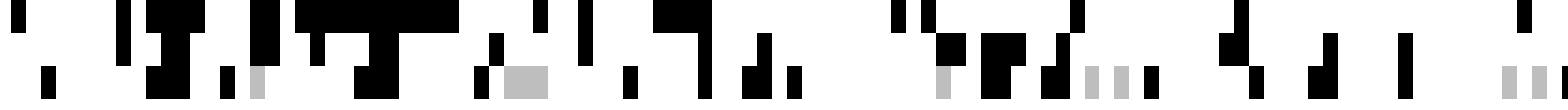
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 YRDC  
 CMTM1  
 POMK  
 FBXL14  
 NFXD10  
 NAT6  
 ERLIN1  
 TTN  
 FAM169A  
 TMEM30A  
 B4GALT5  
 CDKN2D  
 RP11-1094M14.7  
 JMY  
 FGR  
 MAST3  
 B3GNT7  
 LYST  
 PIK3CD  
 FAM134A  
 LBX2-AS1  
 IKZF2  
 AC008427.2  
 DIRC2  
 GPR160  
 COLGALT1  
 CAMKK2  
 DYSF  
 LRRC3DN  
 LRRC3  
 PAM  
 NINJ2  
 RALGAPA2  
 ARNT  
 RBP1  
 RHOJ  
 SGPP1  
 C20orf112  
 CA5BP1  
 RHBDL1  
 DTX3  
 LRRF4  
 PDZD8  
 STIM1  
 TEX2  
 SESN3  
 OR52K3P  
 ATP6V1C1  
 ASH2L  
 RAB27A  
 AGTRAP  
 ASAP1  
 KIAA0930  
 KIAA0247  
 MIR223  
 FAM105A  
 KLF7-IT1  
 MCU  
 ZDHHC3  
 SUCO  
 PTGER2  
 SDCBPP3  
 RP11-365D23.4  
 ITPR2  
 PTBP3  
 MAP3K14  
 AQP3  
 ALS2CR12  
 TRIM16  
 P2RY14  
 C10orf128  
 CDC1170  
 SOCS2-AS1  
 SOCS2  
 PKIG  
 HLA-DQA1  
 MMP19  
 UBP1  
 RPS19BP1  
 VAMP4  
 PAIP2  
 GNA12  
 EPR2  
 SPINK2  
 C3orf80  
 IL12A-AS1  
 DUS1L  
 GPS1  
 SCHIP1  
 DNIT  
 RTCB  
 LIAS  
 UTP14A  
 SNX6  
 FAM129B  
 HMG20B  
 KARS  
 RFTN1  
 MRPL11  
 STON2  
 MAGED1  
 APOL4  
 FAH  
 POLR1D  
 GDI2  
 HNMT  
 ATP5C1  
 RBMY  
 UBXN1  
 EIF3G  
 ERGIC3  
 TOMM22  
 NPM1  
 COPS2  
 CCDC66  
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 RP11-588K22.2  
 GUCY1A3  
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 ORC5  
 ZNF767  
 HUS1  
 SARS



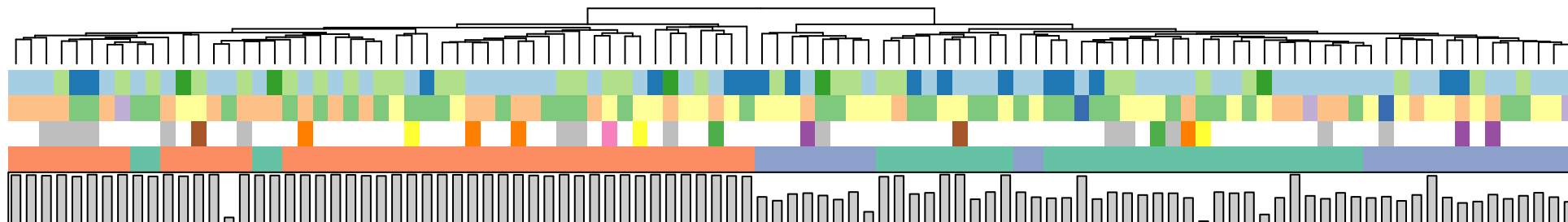
129 Genes



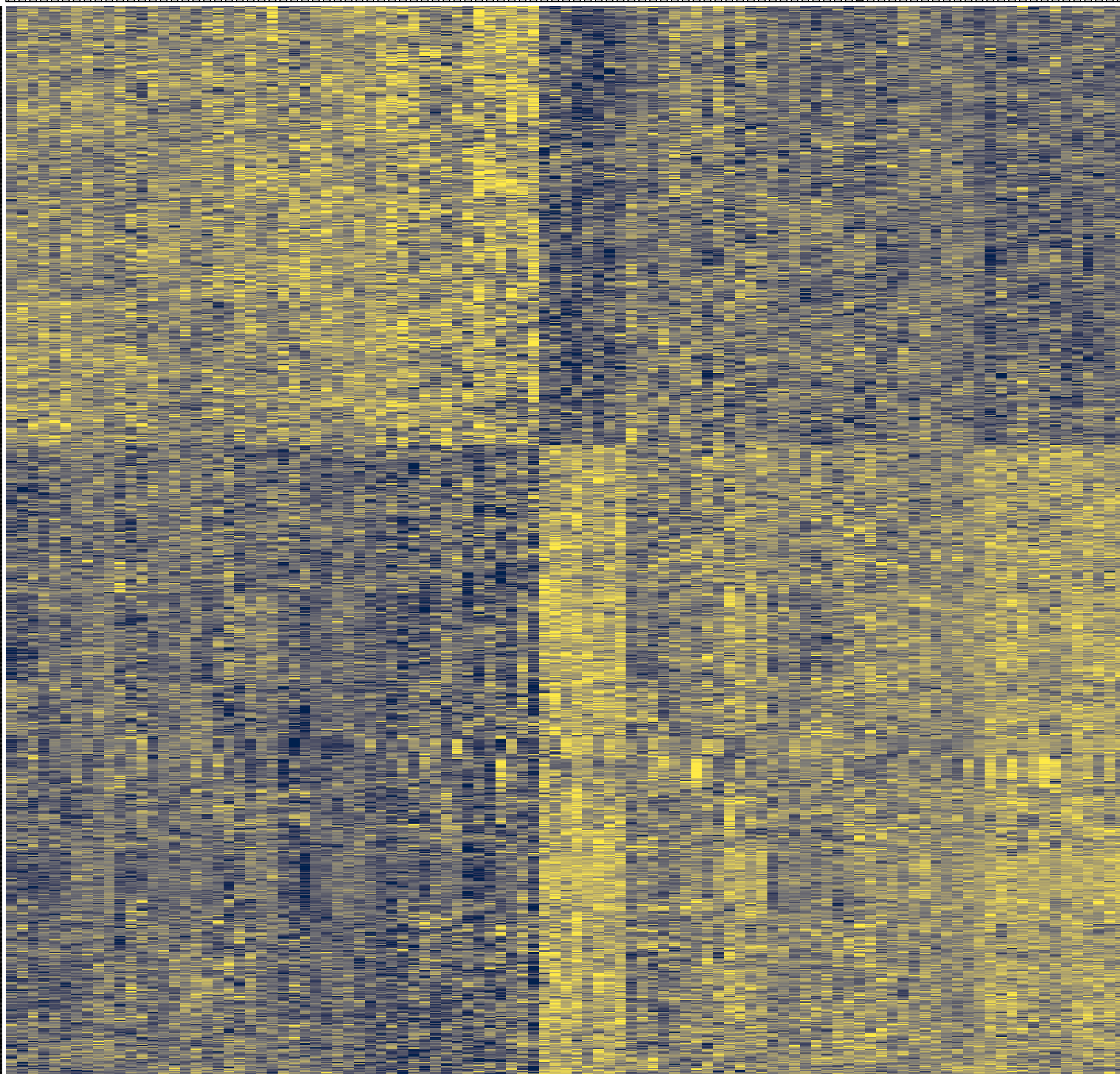
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 13-00034  
 14-00831  
 15-00813



# Significant Gene Expression for Motesanib (AMG-706) Response (n=103)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC



1026 Genes

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CBFB-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex

**Mclust**  
 Cluster1  
 Cluster2  
 Cluster3

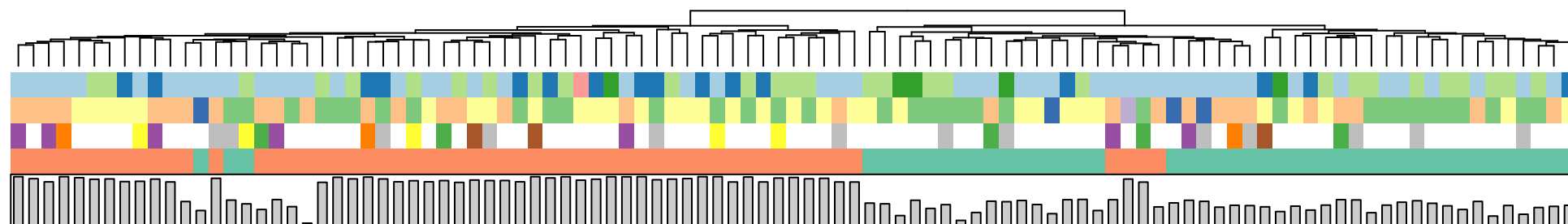


FLT3\_ITD  
NPM1  
DNMT3A

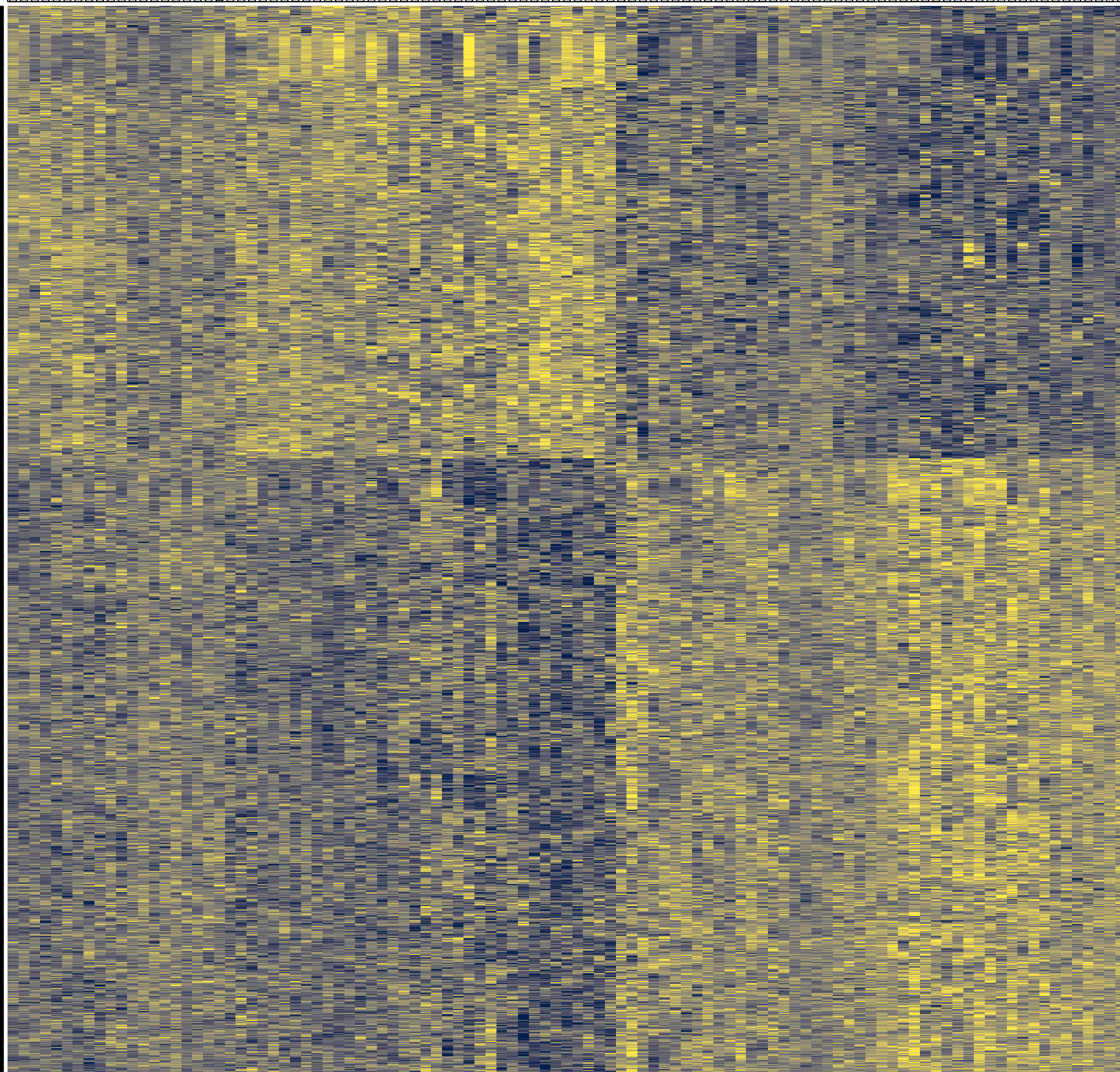
Expression Zscore -4 -2 0 2 4



# Significant Gene Expression for NF-κB Activation Inhibitor Response (n=103)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC



**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CFBF-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM

**Mclust**  
 Cluster1  
 Cluster2

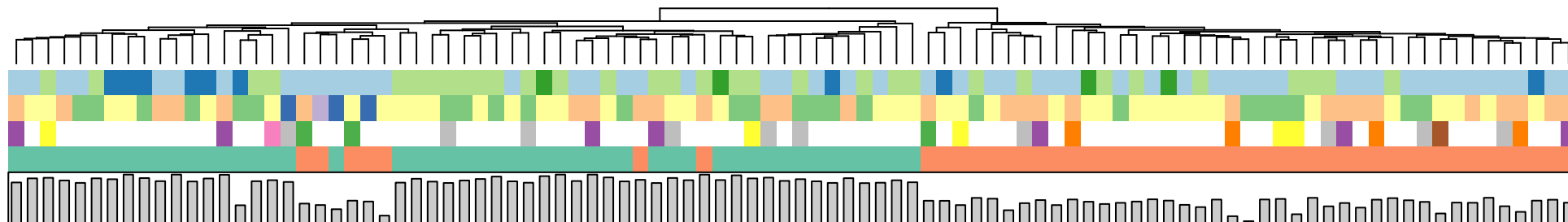
1540 Genes



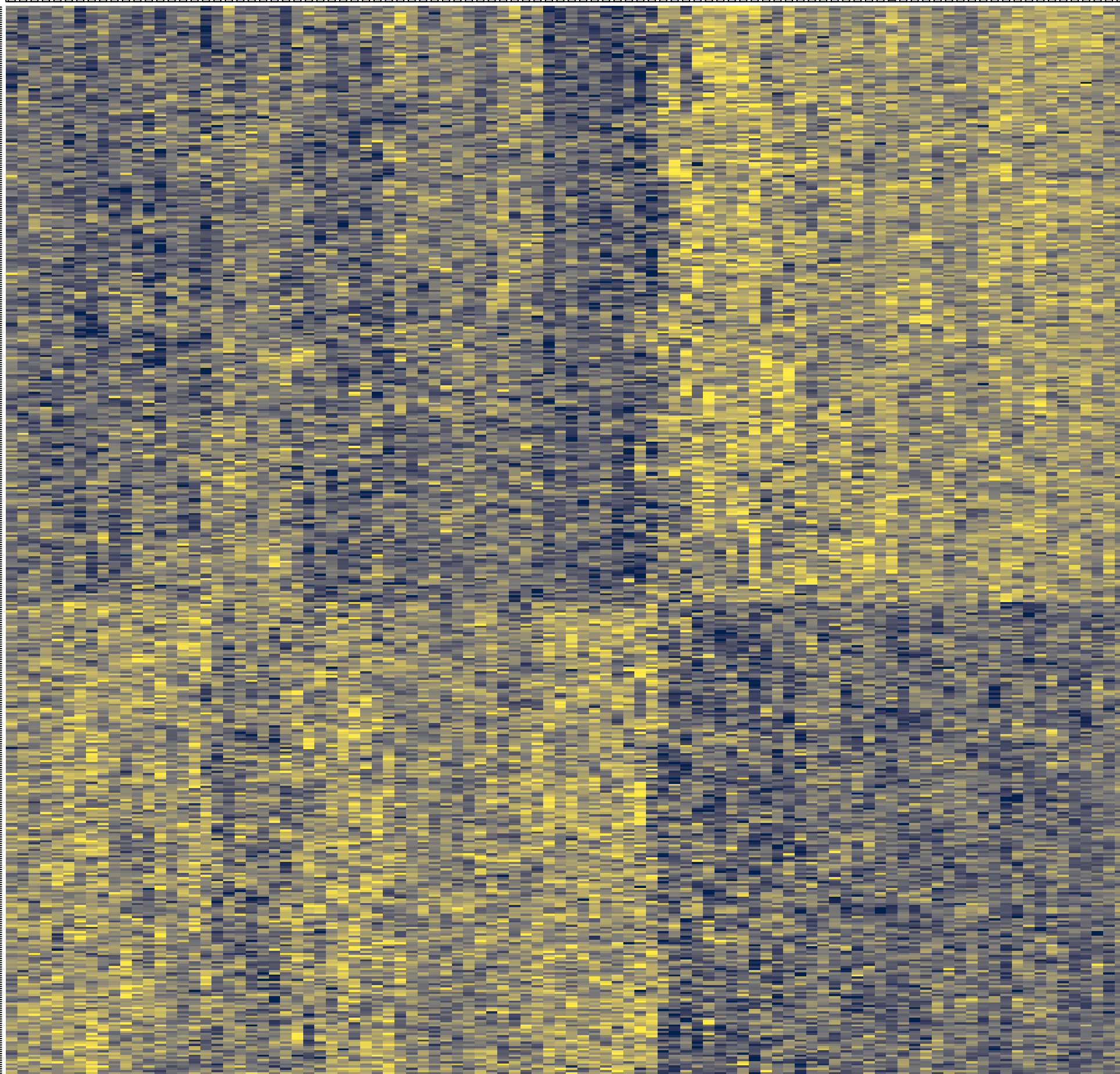
FLT3\_ITD  
NPM1  
DNMT3A

Expression Zscore -4 -2 0 2 4

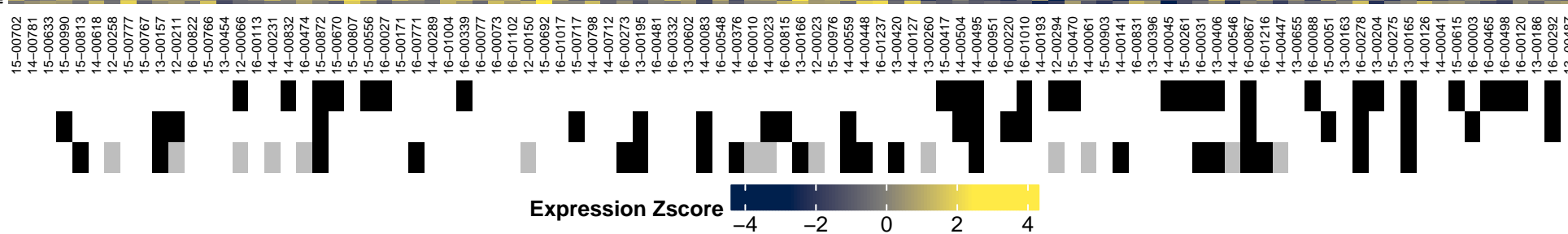
# Significant Gene Expression for NVP-TAE684 Response (n=98)



Disease\_type  
 ELN2017  
 Cytogenetics  
 Mclust  
 AUC

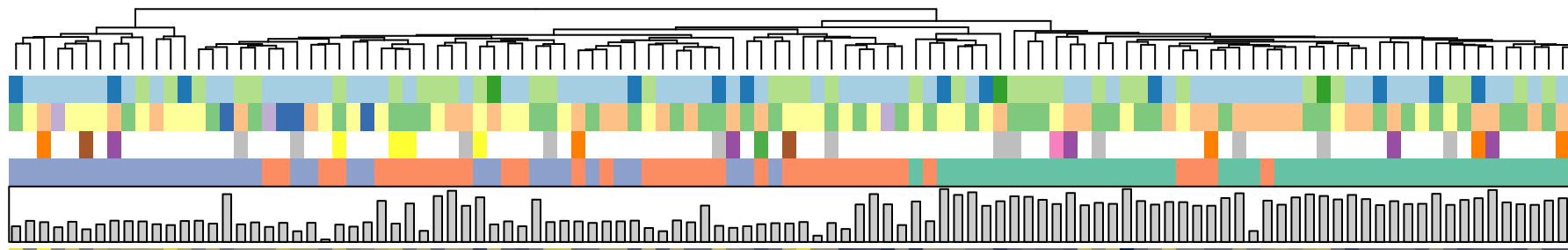


**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse  
**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CBFB-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex  
**Mclust**  
 Cluster1  
 Cluster2

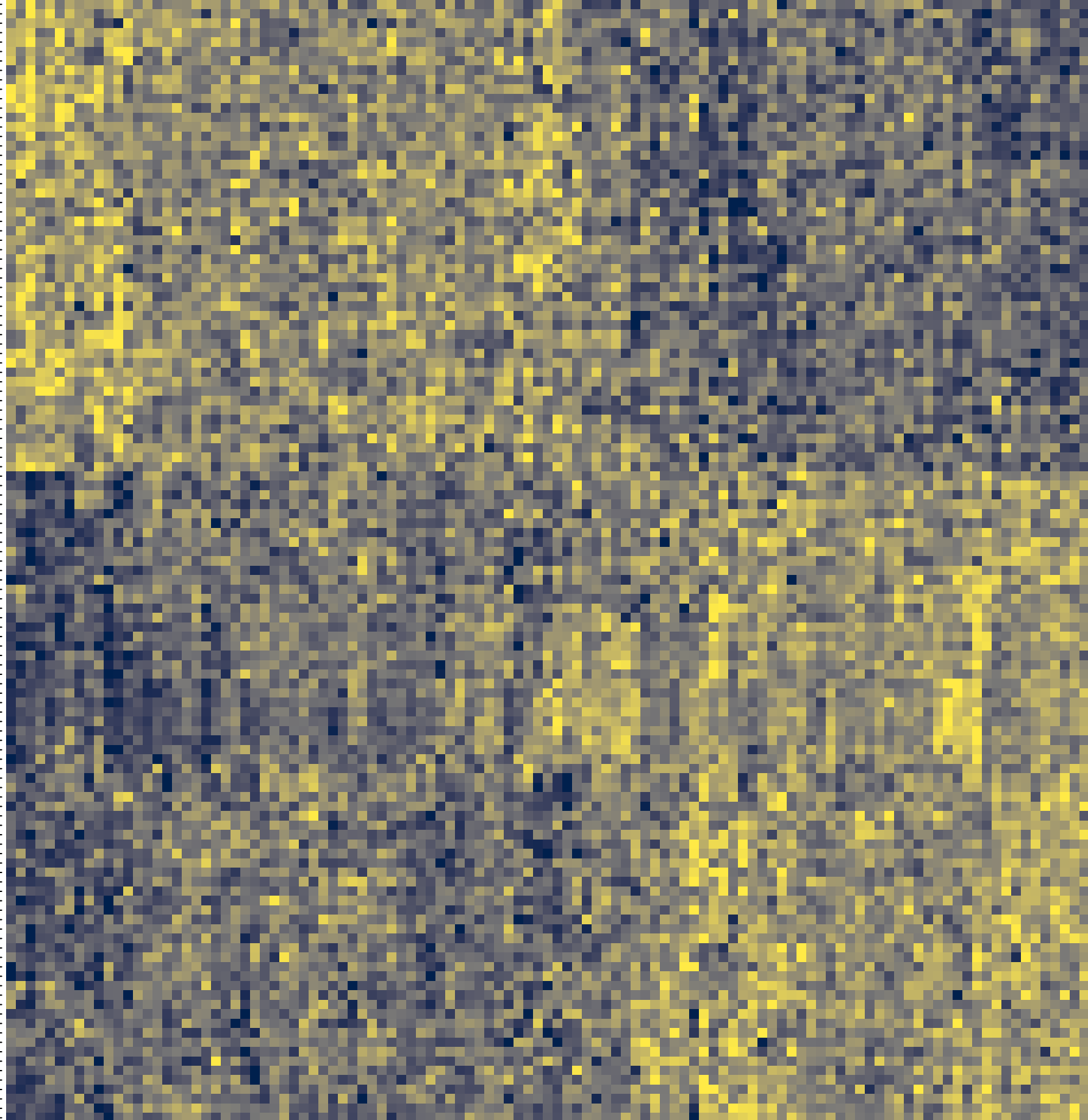


FLT3\_ITD  
 NPM1  
 DNMT3A

# Significant Gene Expression for Neratinib (HKI-272) Response (n=112)

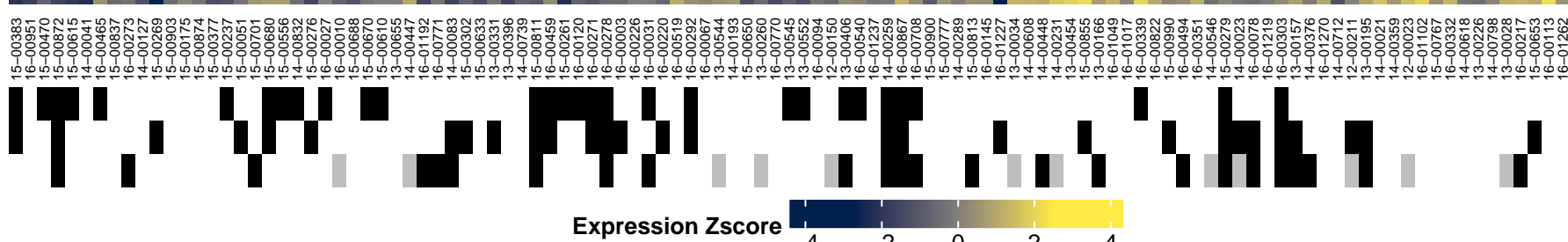


**Disease\_type**  
**ELN2017**  
**Cytogenetics**  
**Mclust**



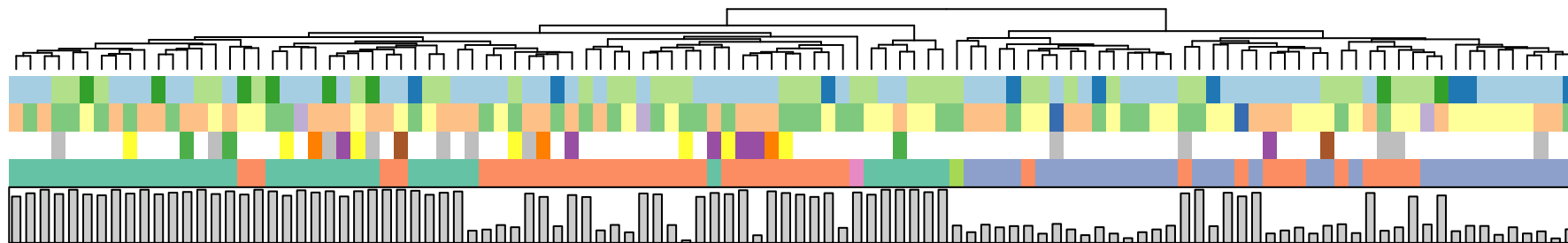
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 SP140L  
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 RP11-175B9.3  
 PHC1  
 SYNGAP1  
 ZNF195  
 KLHL6  
 SEPT7P2  
 IFIT2  
 FBNP4  
 ZNF692  
 APOBEC3D  
 TRMT13  
 EHTT2  
 DDT3  
 DEF6  
 QPRT  
 EWSR1  
 SFPQ  
 C14orf159  
 RP11-367G6.3  
 EBPL  
 SLC35F2  
 TMEM135  
 RMX  
 ZNF74  
 CYCS  
 LPIN1  
 PRIMPOL  
 PLA2G6  
 ITGB8  
 MAP1A  
 IL12A  
 UBE2S  
 UBE2SP1  
 SLC7A5P1  
 PFDN2  
 UPF2  
 HNRNPC1  
 S100BPB  
 APOO  
 USMG5  
 RP11-126K1.6  
 FKBP3  
 PIK3C2B  
 MAST4  
 PHLD3  
 SLA2  
 TPCN2  
 H6PD  
 GLYCTK  
 NDST1  
 DNAJC5  
 OLFM4  
 ELK1  
 GSK3B  
 FAM199X  
 RAP2C-AS1  
 EIF3LP1  
 UBTD1  
 RP11-973N13.2  
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 KHSRPP1  
 PTBP1  
 DD3YP3  
 HSPA9P1  
 MORF4  
 RP11-110J1.2  
 RP11-553P9.1  
 EEF1A1P22  
 EEF1A1P16  
 EEF1A1P4  
 EEF1A1P25  
 EEF1A1P19  
 RP11-435F13.2  
 RPS4XP3  
 EEF1GP1  
 RP11-343H5.4  
 RP11-800A3.4  
 P2RY2  
 MED13L  
 HPS1  
 SEL1L  
 EFCAB14  
 RAB5B  
 TUSC2  
 UBL3  
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 RAB21  
 SLC17A5  
 MAP2K1P1  
 SDCBPP3  
 RAB2A  
 SNTB2  
 KLF13  
 HIATL1  
 TET3  
 RP11-711M9.1  
 YTHDF1  
 SLC30A6  
 PGP  
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 CDC23  
 SPTLC1  
 AGTPBP1  
 RPS6KL1  
 TRIGK  
 VAMP3  
 CDC42EP4  
 CFP  
 FGR  
 CXorf56  
 DAZAP2P1  
 CAP1  
 RP11-550F7.1

**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse  
**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CBF-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex  
**Mclust**  
 Cluster1  
 Cluster2  
 Cluster3

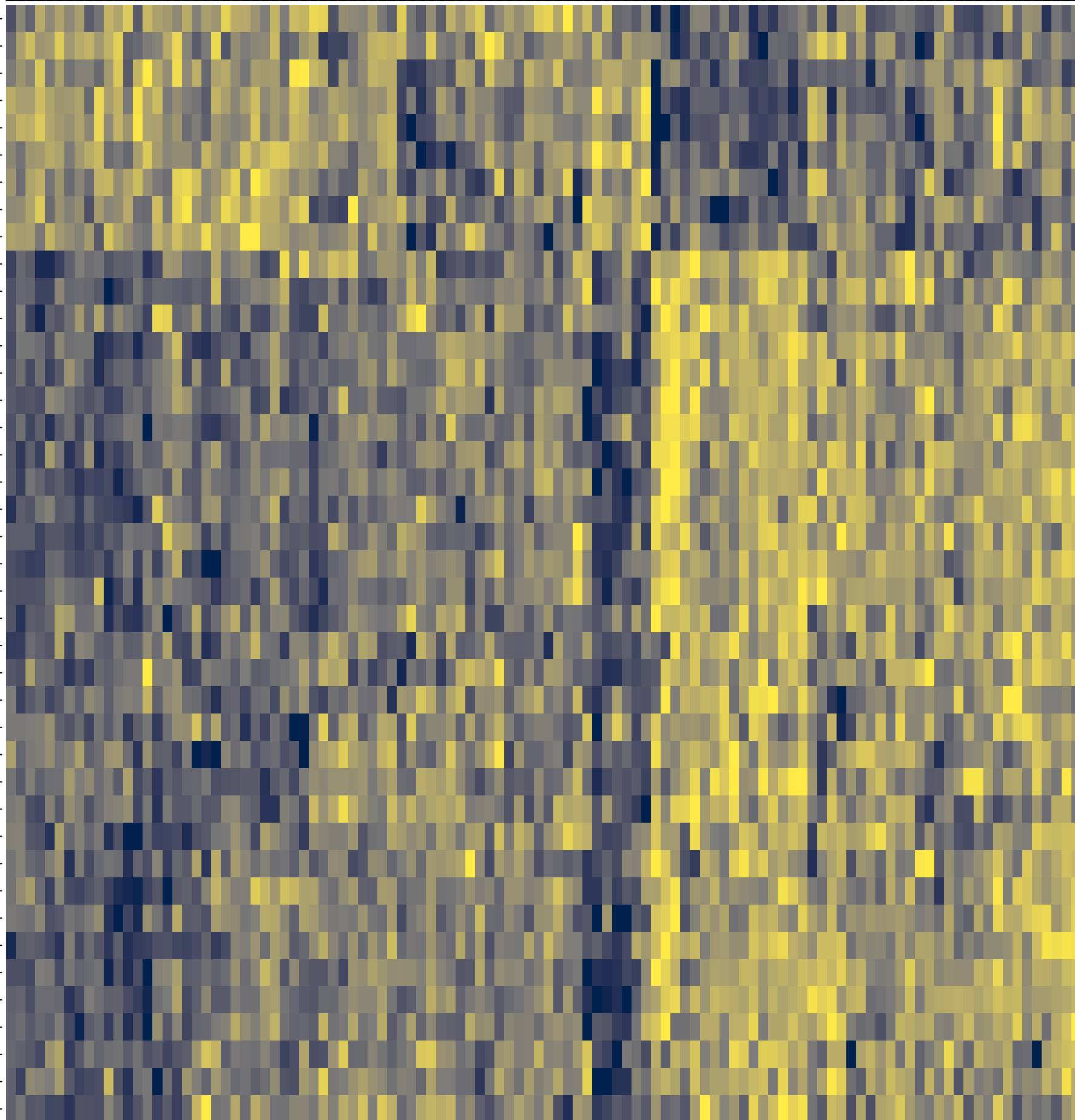
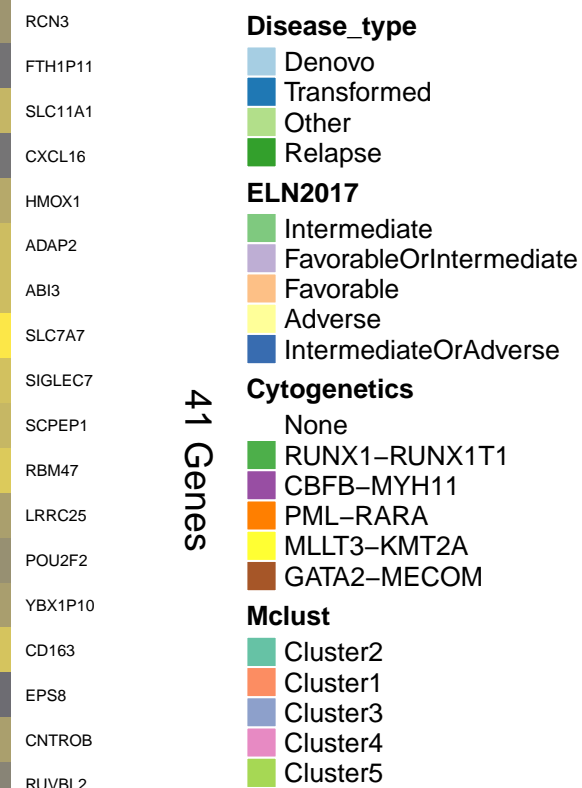


**Expression Zscore** -4 -2 0 2 4

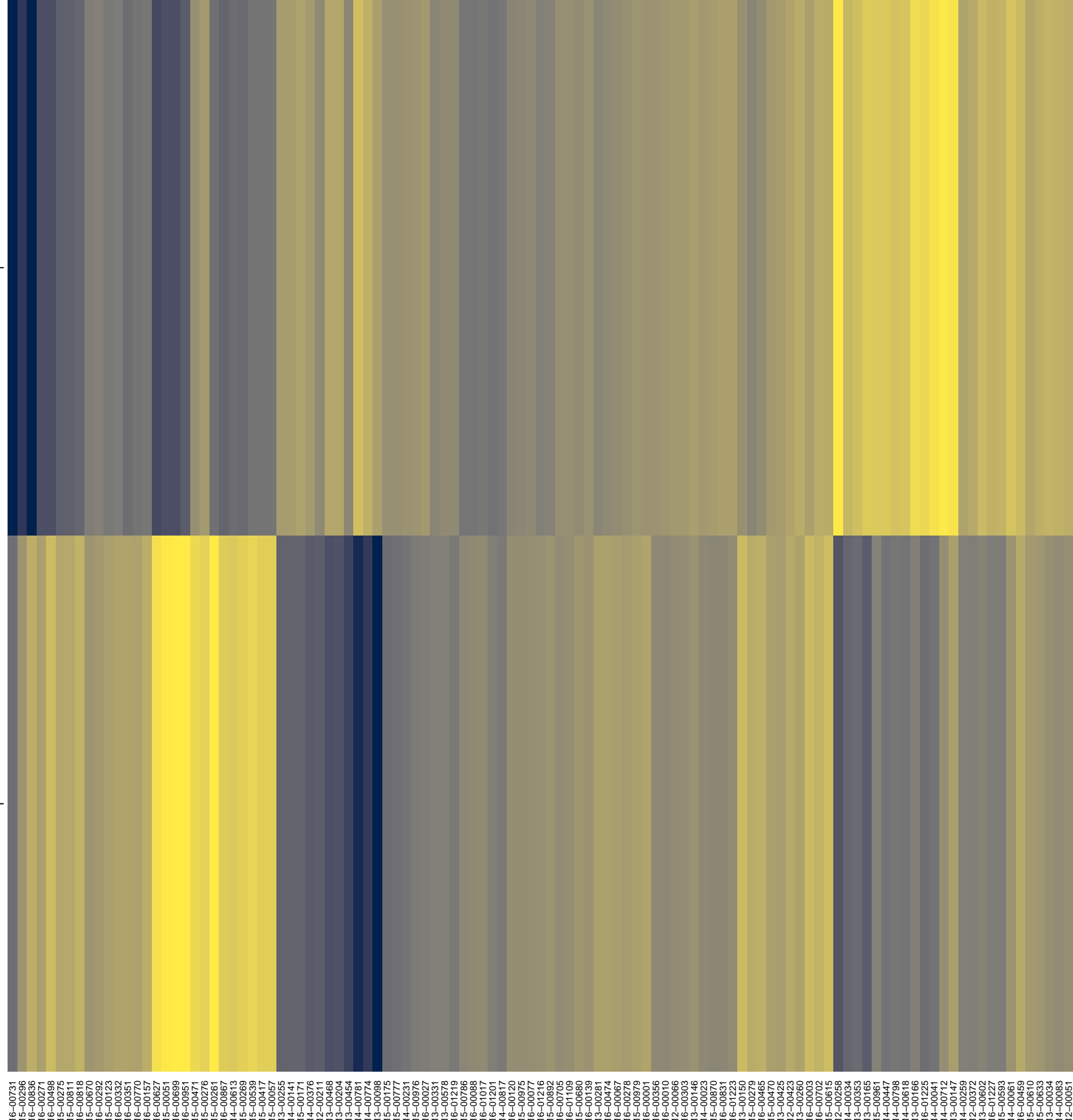
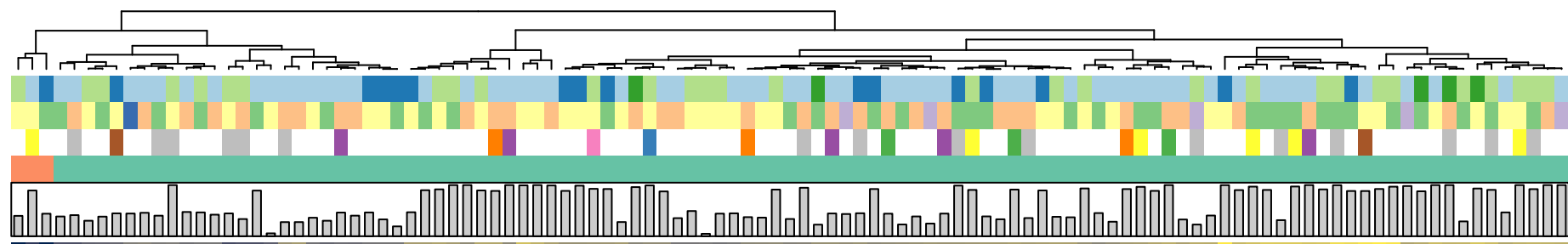
# Significant Gene Expression for Nilotinib Response (n=110)



**Disease\_type**  
 ELN2017  
 Cytogenetics  
 Mclust  
 AUC



# Significant Gene Expression for PD173955 Response (n=111)



**Disease\_type**

- Denovo
- Transformed
- Other
- Relapse

**ELN2017**

- Intermediate
- FavorableOrIntermediate
- Favorable
- Adverse
- IntermediateOrAdverse

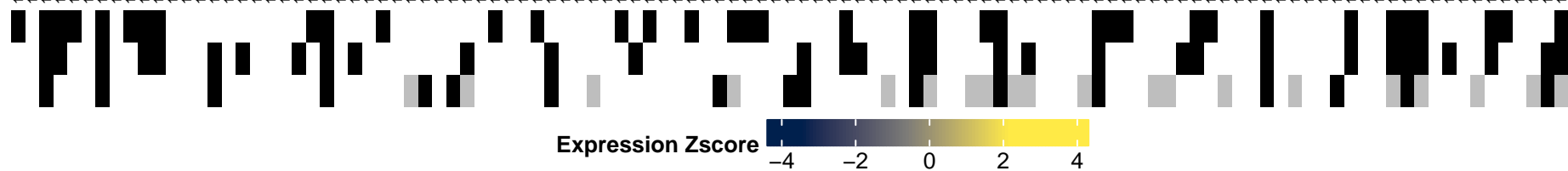
**Cytogenetics**

- None
- DEK-NUP214
- RUNX1-RUNX1T1
- CBFB-MYH11
- PML-RARA
- MLL3-KMT2A
- GATA2-MECOM
- Complex

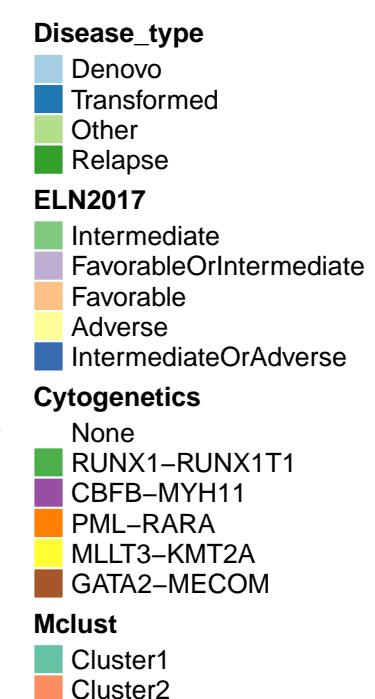
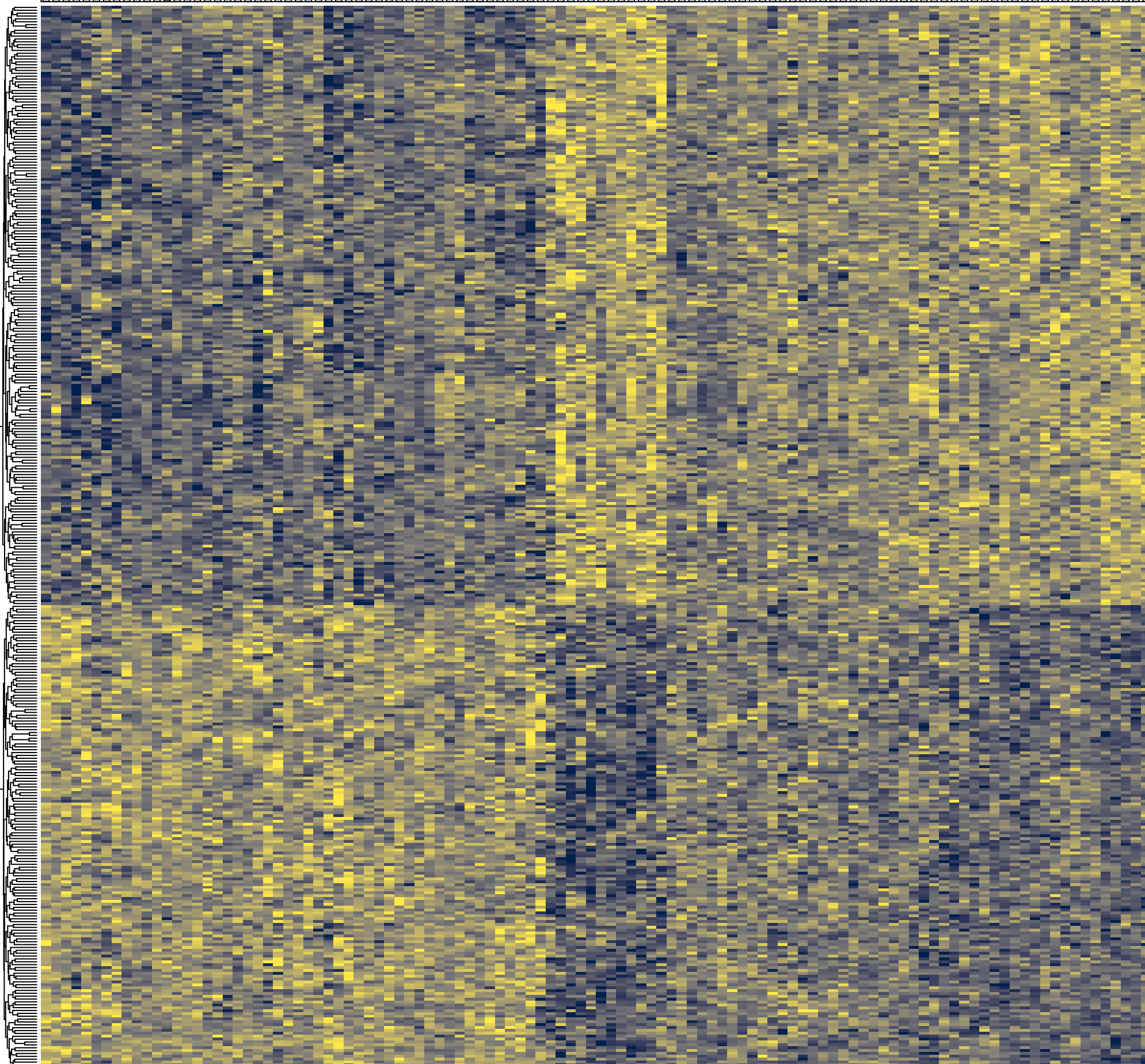
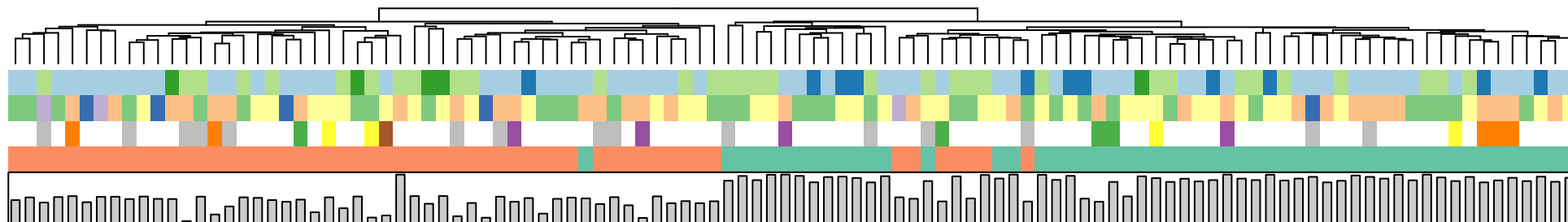
**Mclust**

- Cluster1
- Cluster2

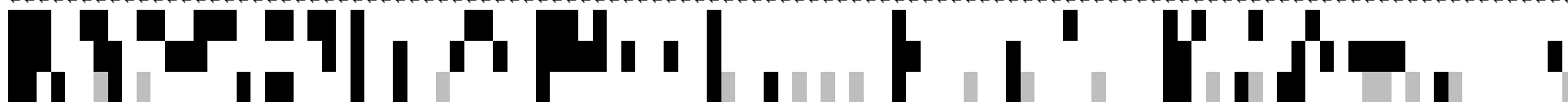
2 Genes



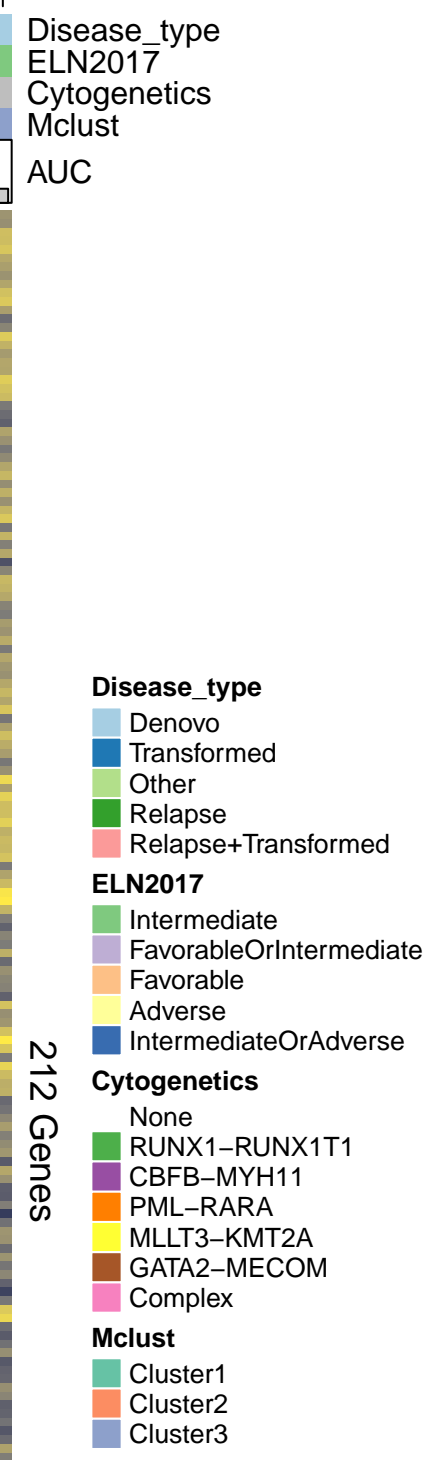
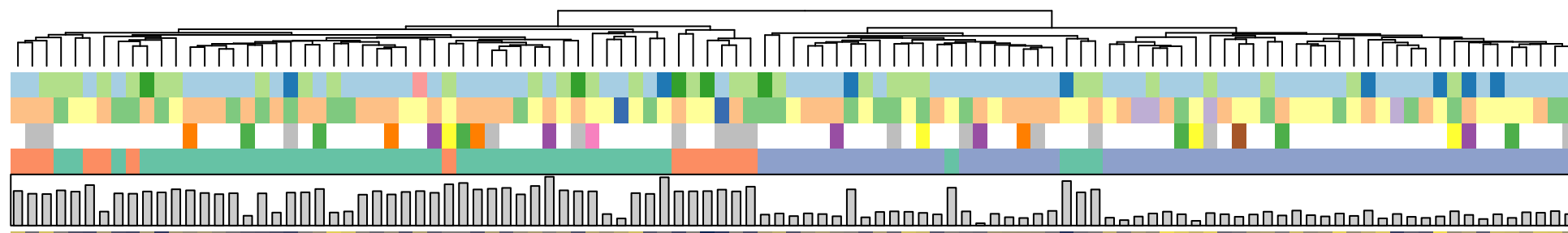
# Significant Gene Expression for PHA-665752 Response (n=110)



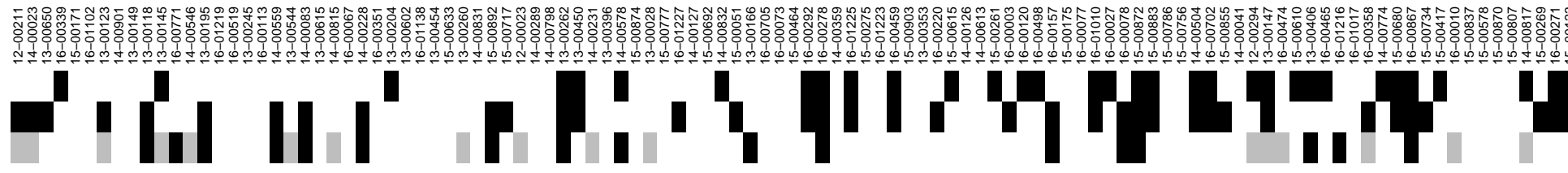
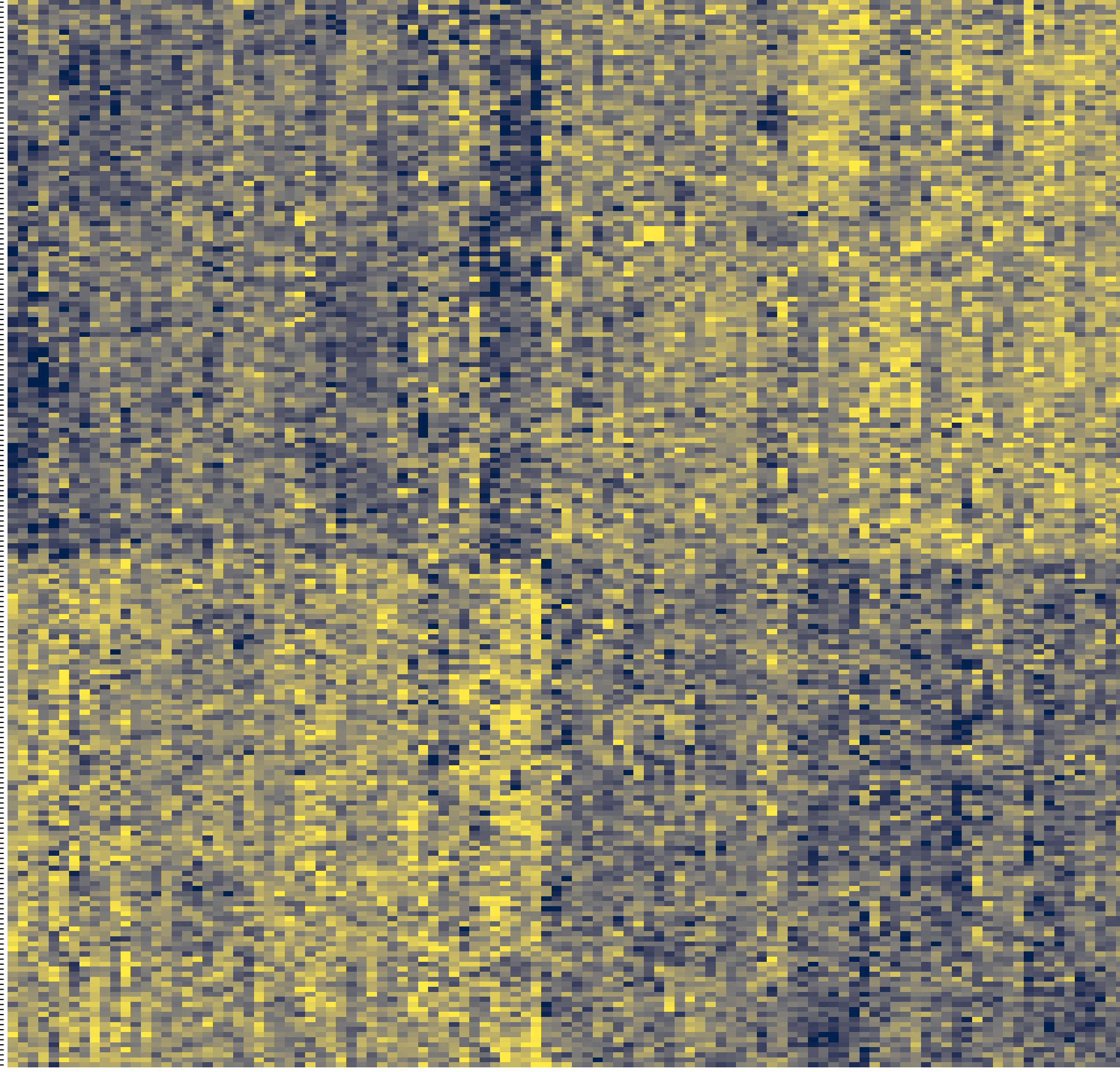
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# Significant Gene Expression for PI-103 Response (n=109)

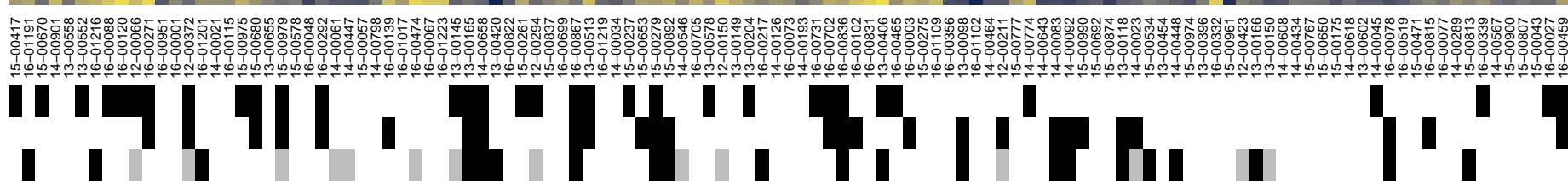
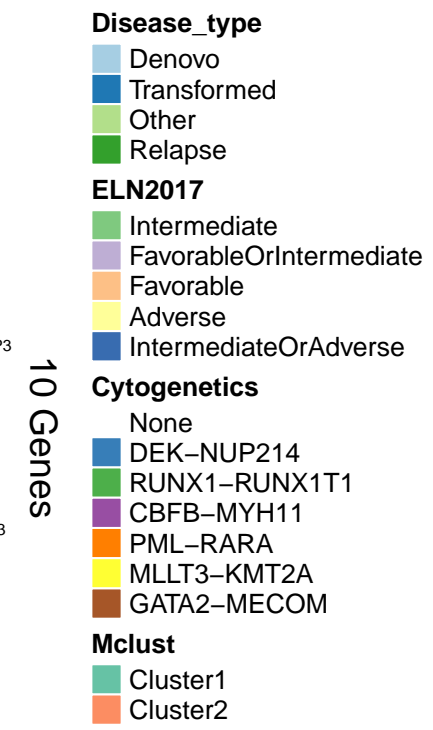
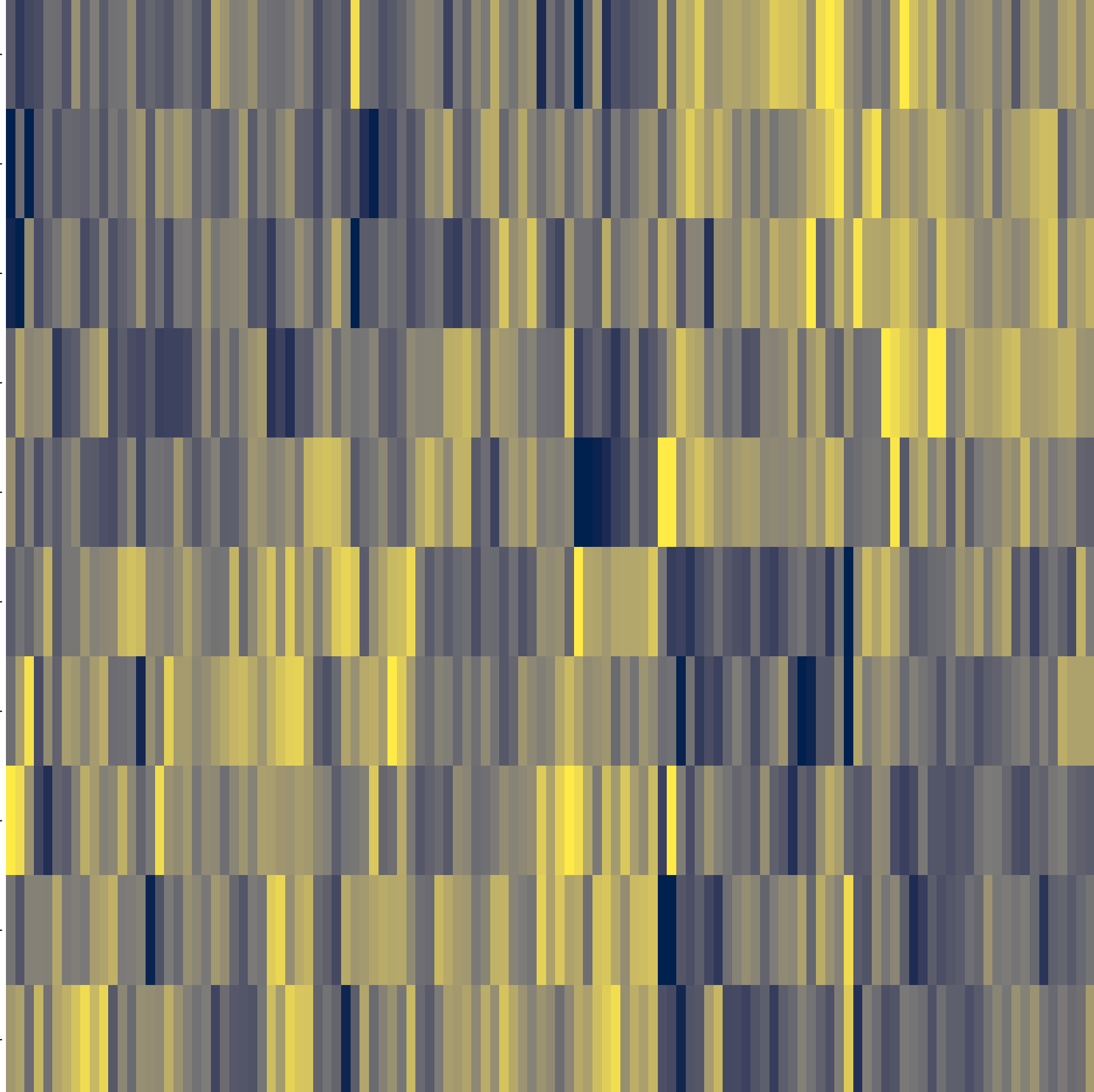
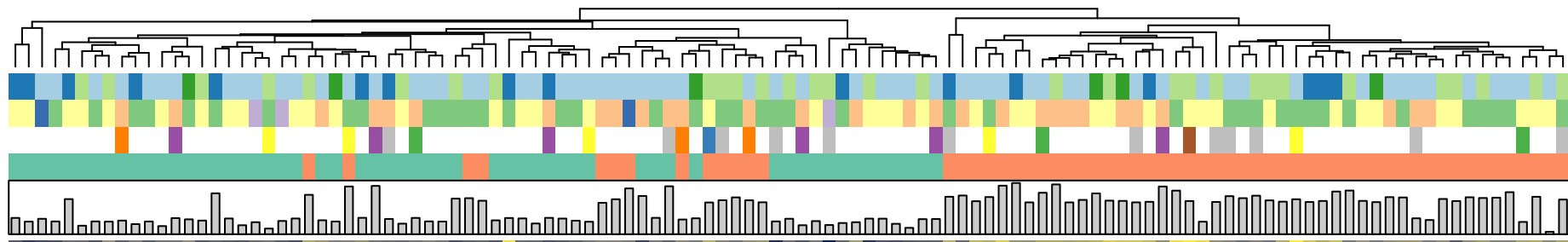


212 Genes



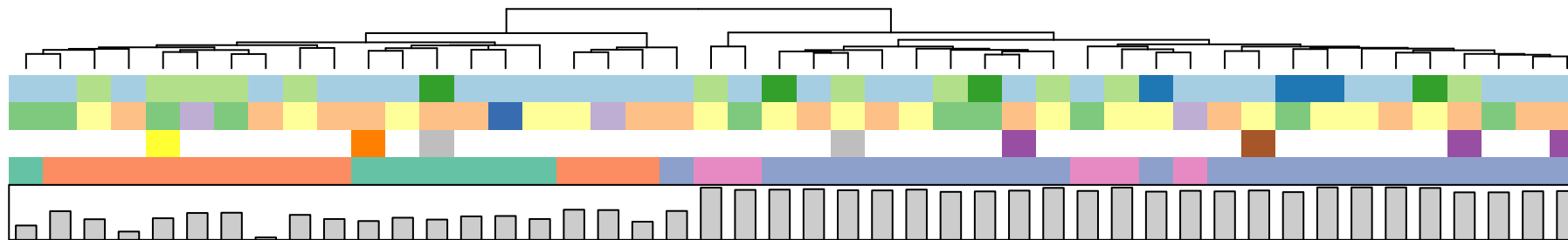
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 16-00474  
 15-00610  
 13-00406  
 16-00465  
 16-01216  
 16-01017  
 16-00358  
 14-00774  
 15-00680  
 16-00867  
 15-00734  
 15-00417  
 16-00010  
 15-00837  
 15-00578  
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 14-00817  
 15-00269  
 16-00271  
 15-00123

# Significant Gene Expression for PP242 Response (n=117)





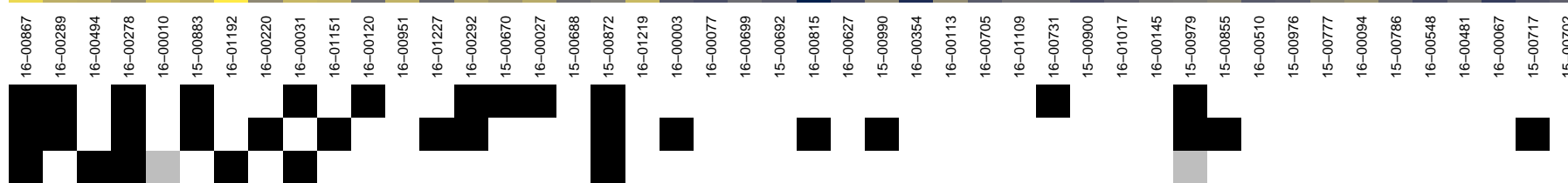
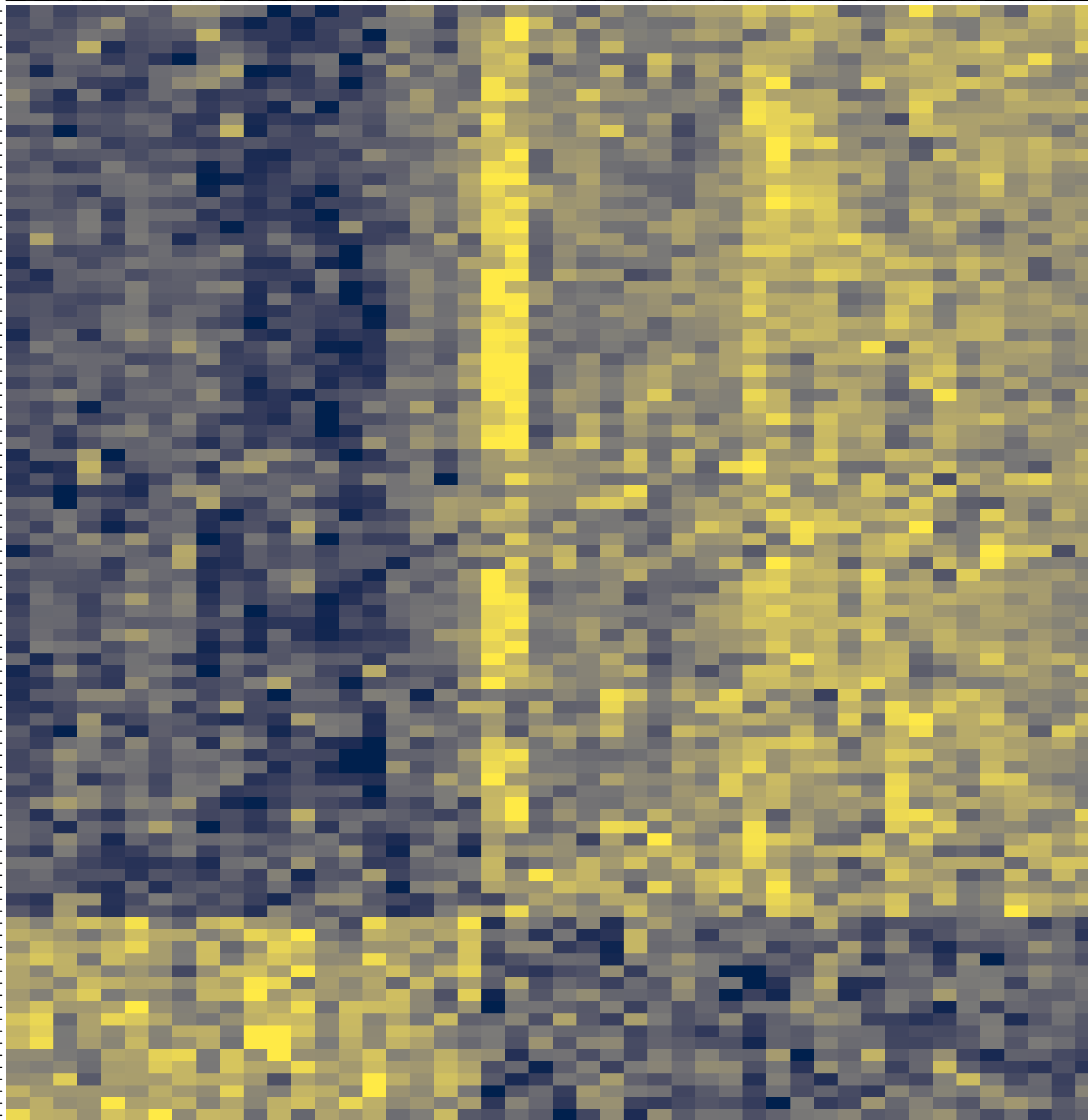
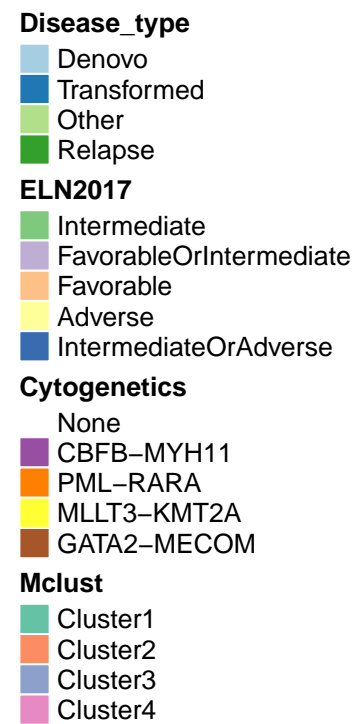
# Significant Gene Expression for Palbociclib Response (n=46)



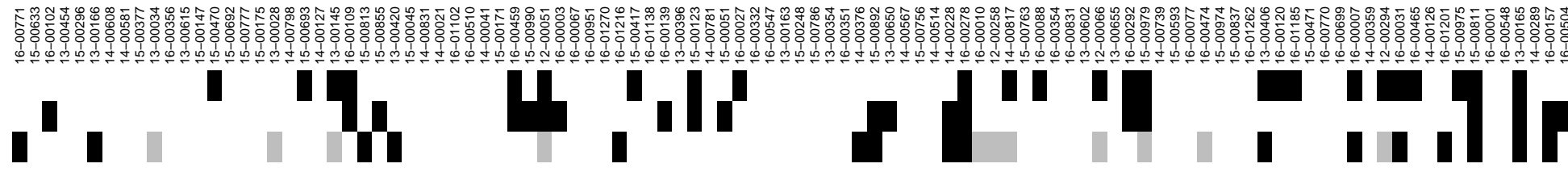
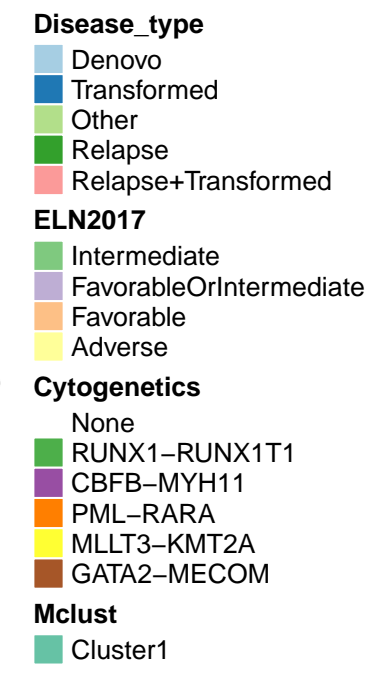
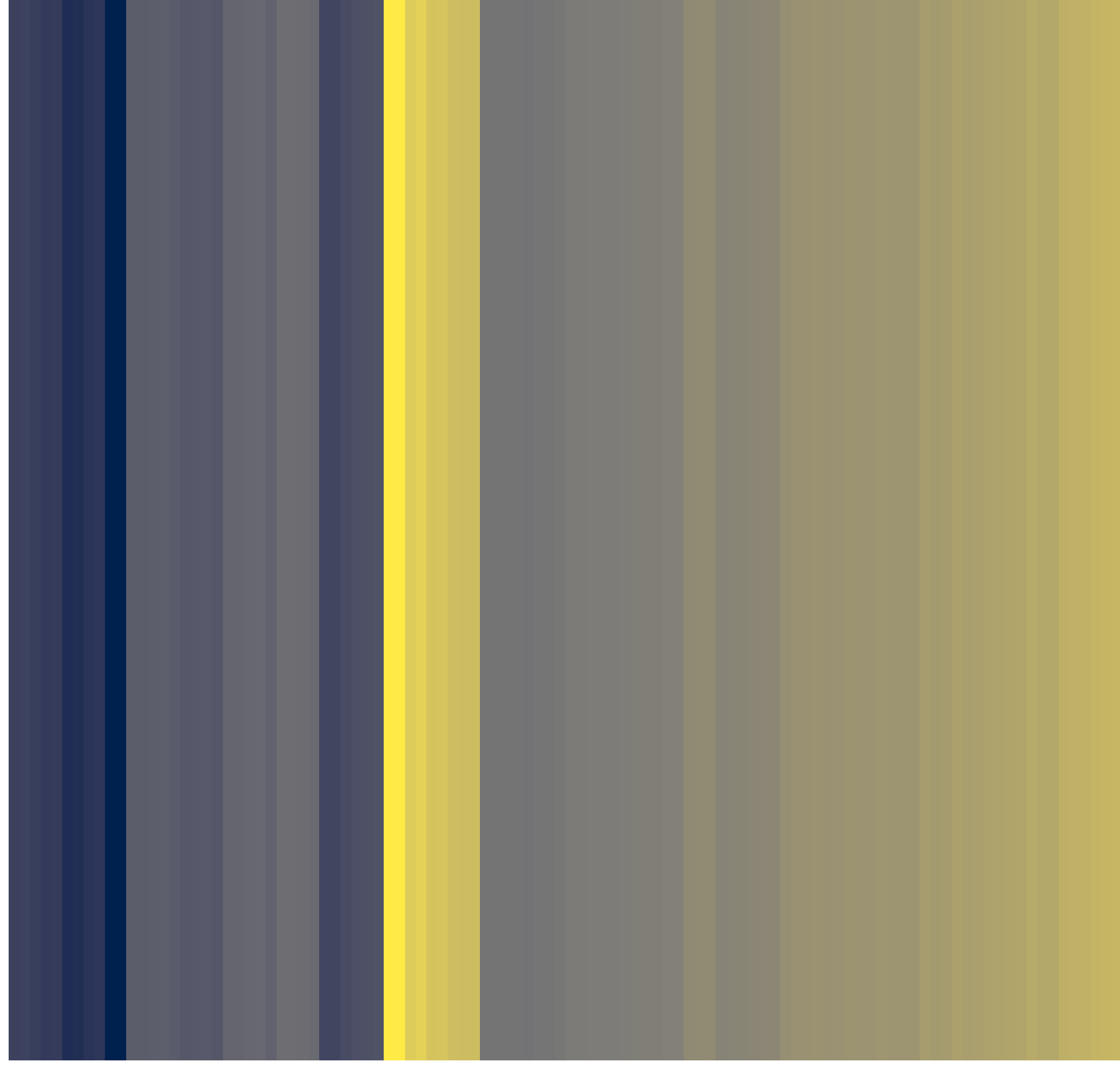
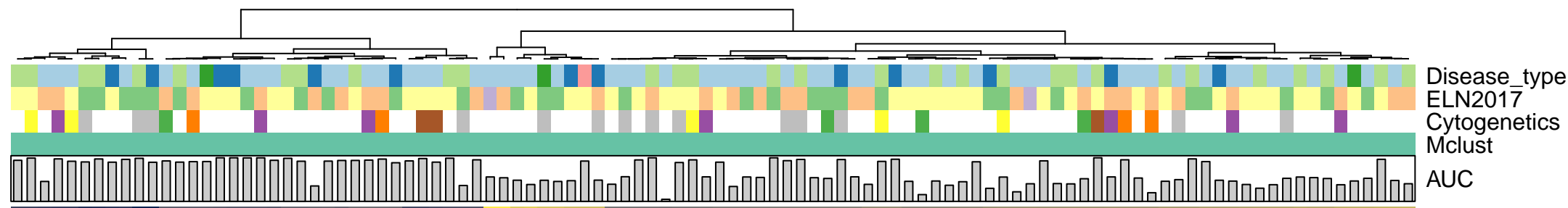
**Disease\_type**  
**ELN2017**  
**Cytogenetics**  
**Mclust**  
**AUC**

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 CR1  
 STX11  
 CFP  
 GSR  
 TLR5  
 MSR1  
 GPBAR1  
 VSIG4  
 CD163  
 PSAP  
 CTSS  
 SLC7A7  
 SCIMP  
 LRP1  
 HMOX1  
 MAFB  
 CXCL16  
 CD93  
 KCTD12  
 TLR8  
 CCR1  
 LILRB3  
 LILRA6  
 SLC15A3  
 LRRC25  
 RBM47  
 MEFV  
 SLC11A1  
 LILRA5  
 CHST15  
 AC008984.2  
 SECTM1  
 FGL2  
 CD300E  
 LILRB1  
 PTPRE  
 LGALS12  
 DOK2  
 TNFRSF14  
 SERPINB9  
 IQSEC1  
 IFNGR2  
 S1PR3  
 RP11-613F7.1  
 CDC40  
 IL10RA  
 FCGR1  
 VCAN  
 SIGLEC9  
 CD14  
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 CD1D  
 MS4A7  
 RHOA  
 SCPEP1  
 GPA33  
 CSGALNACT1  
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 FYCO1  
 LYZ  
 HK3  
 CYBB  
 NLRC4  
 C5AR2  
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 GYPC  
 VAMP3  
 OGFRL1  
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 MAP3K3  
 AGFG1  
 RP3-469D22.1  
 LAPTM5  
 SMC4  
 CCP110  
 WHAMMP3  
 C16orf93  
 TUBB6  
 MAP1A  
 CLU  
 ACRBP  
 LOXL1-AS1  
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 KIF27

93 Genes

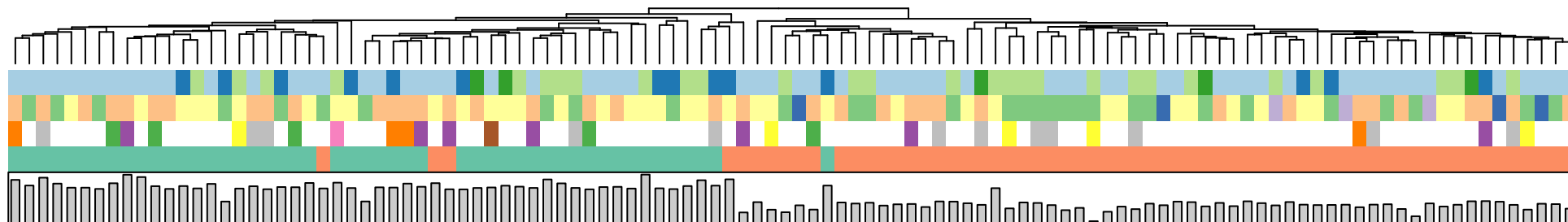


# Significant Gene Expression for Pazopanib (GW786034) Response (n=104)

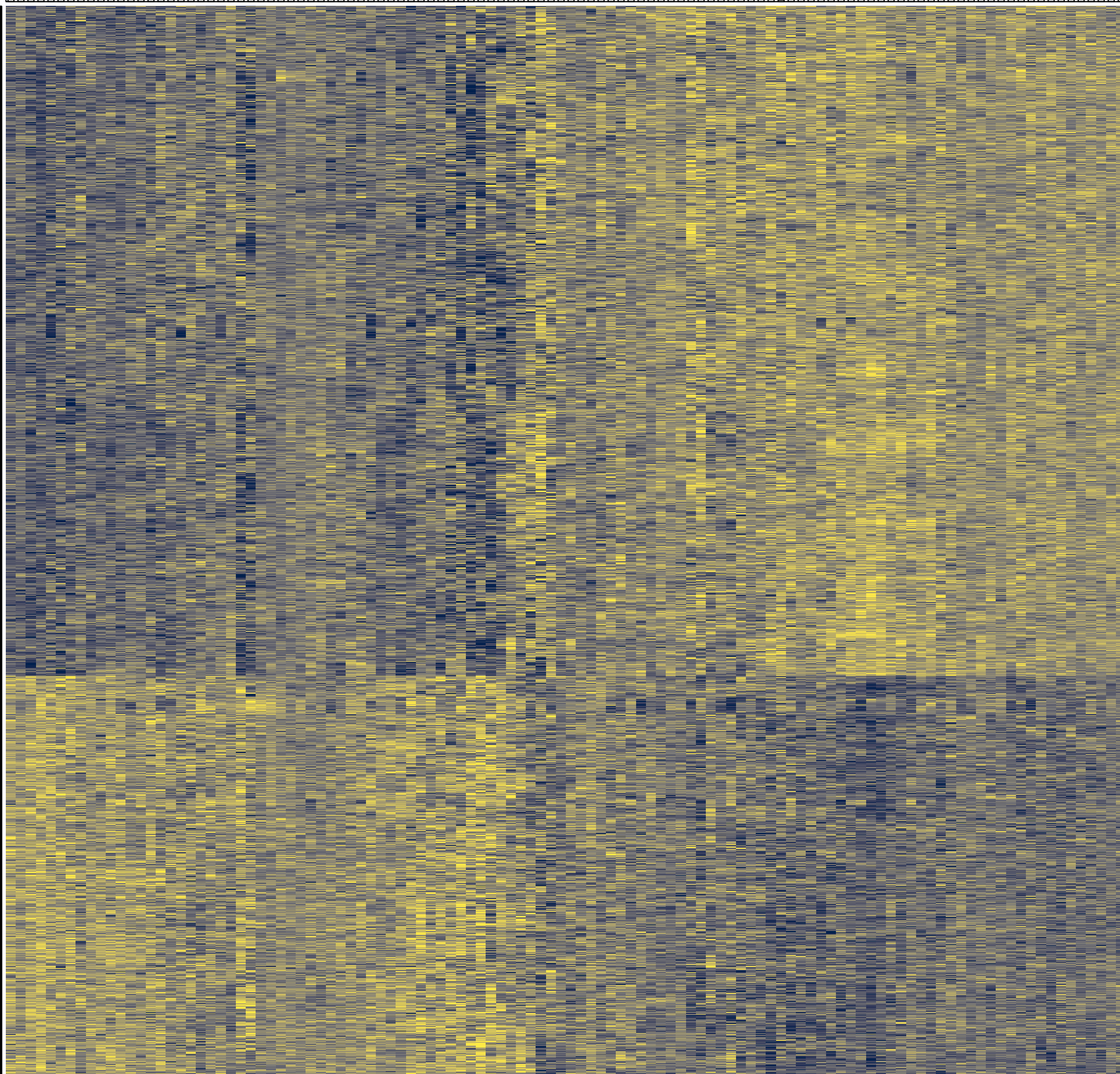


MRPL37

# Significant Gene Expression for Pelitinib (EKB-569) Response (n=112)



Disease\_type  
 ELN2017  
 Cytogenetics  
 Mclust  
 AUC



**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse  
**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CFBF-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex  
**Mclust**  
 Cluster1  
 Cluster2

4180 Genes

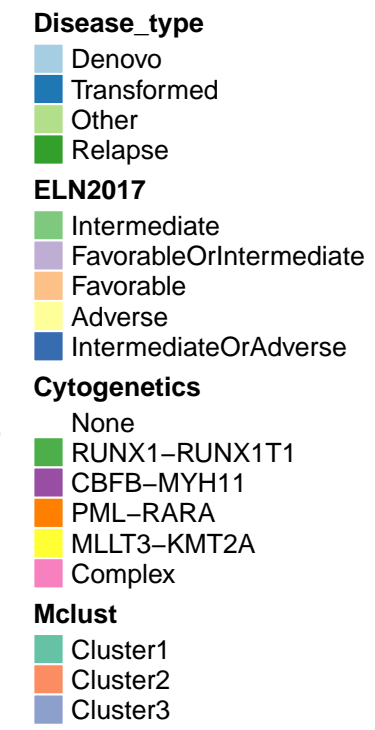
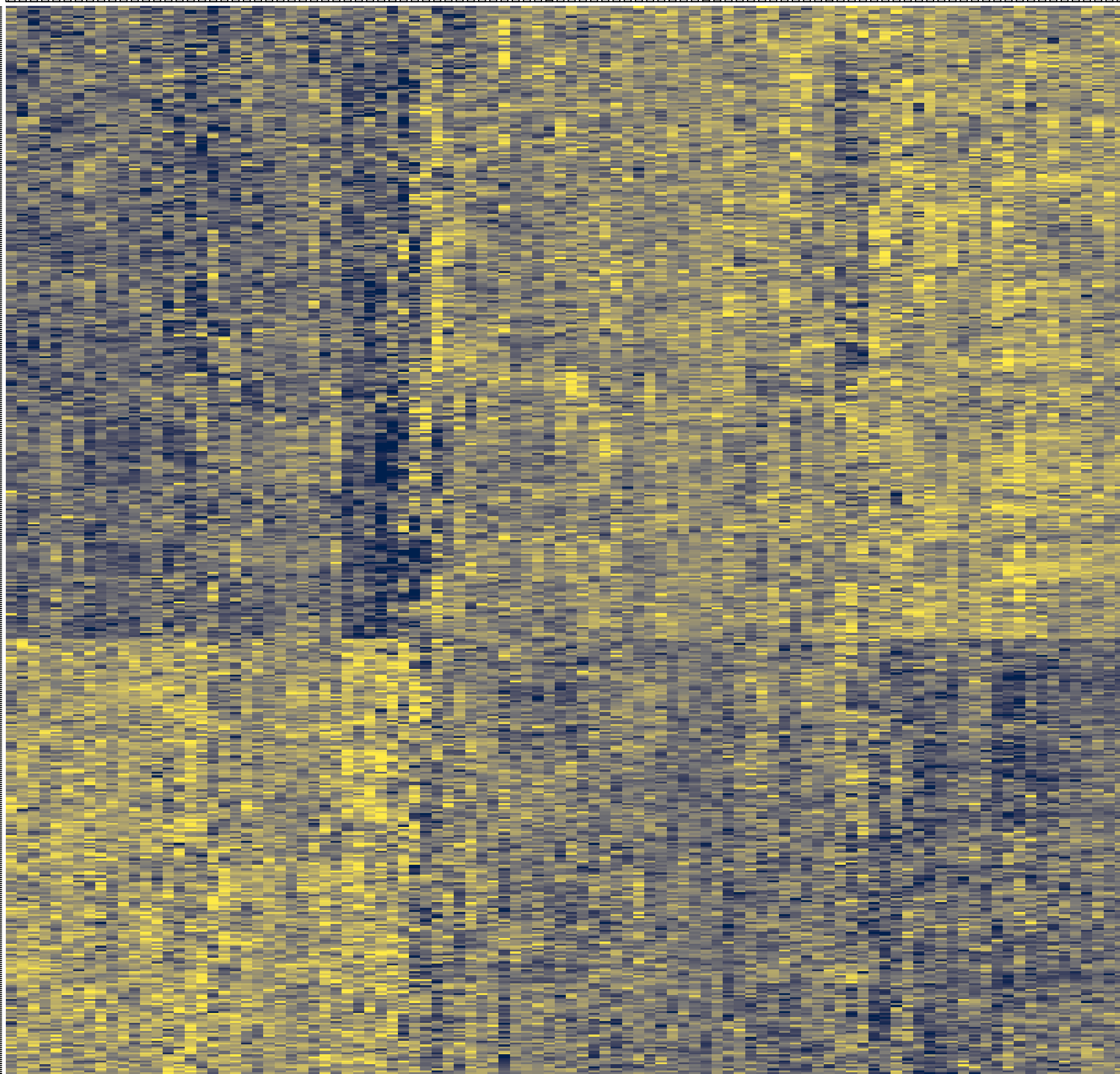
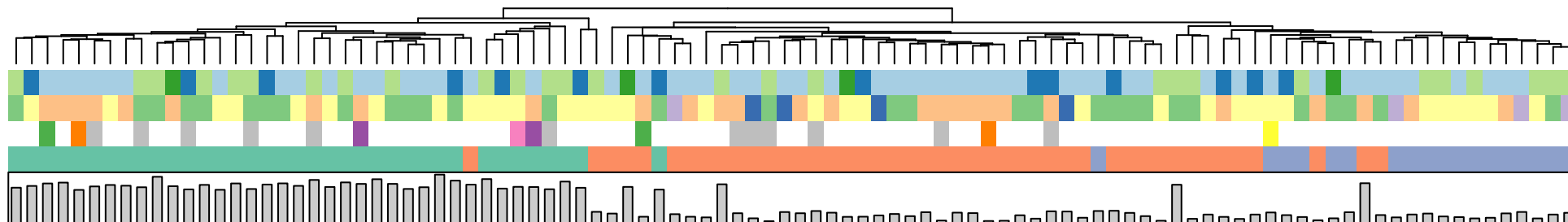
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 14-00643  
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 13-00558  
 13-00468  
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 14-00359  
 16-00003  
 15-00471  
 15-00287  
 15-00464  
 16-00771  
 16-01227  
 13-00655  
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 12-00150  
 15-00123  
 16-01223  
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 16-00010  
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 15-00578  
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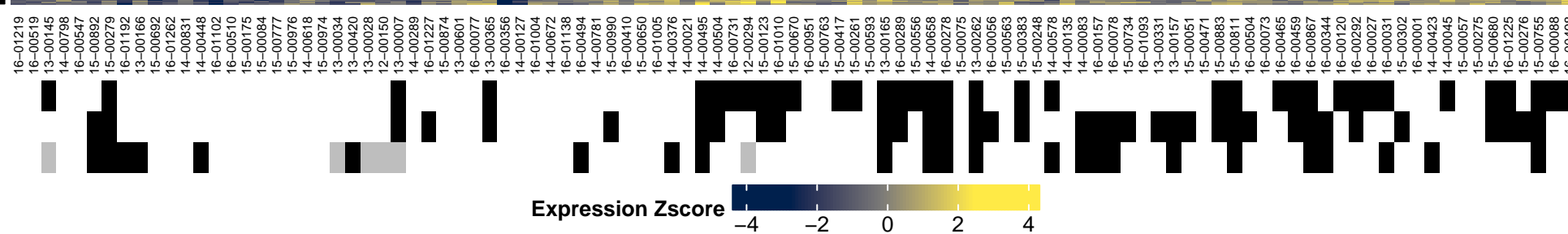
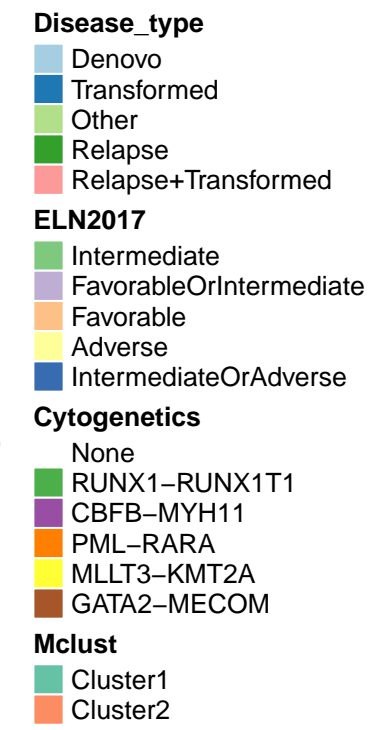
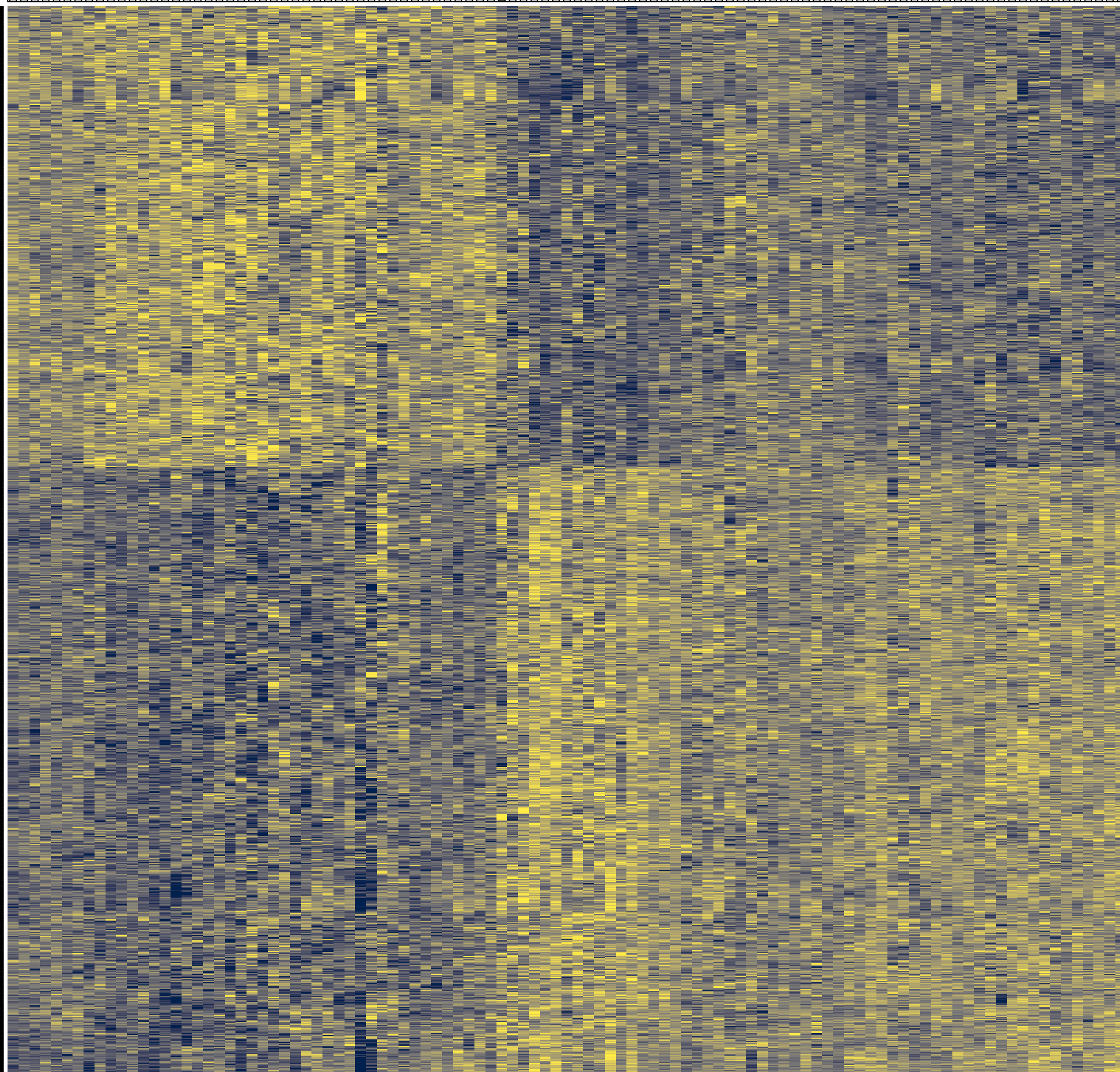
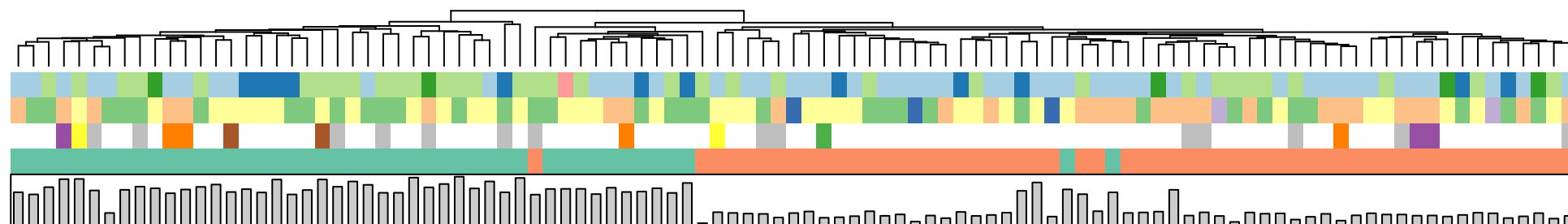
FLT3\_ITD  
 NPM1  
 DNMT3A



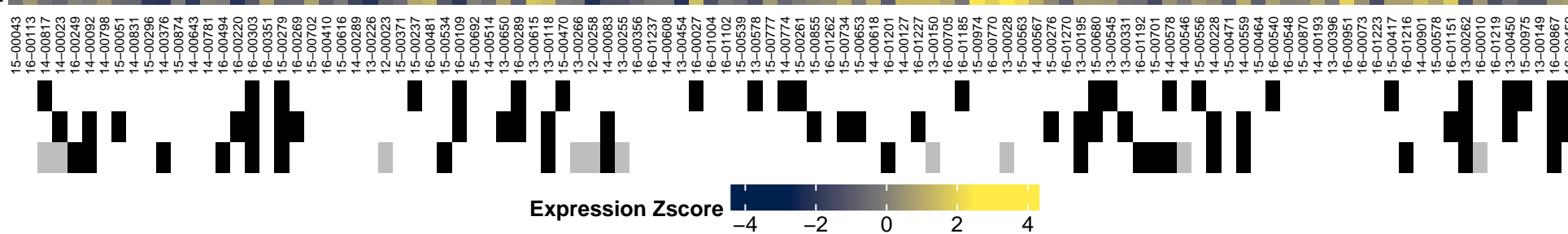
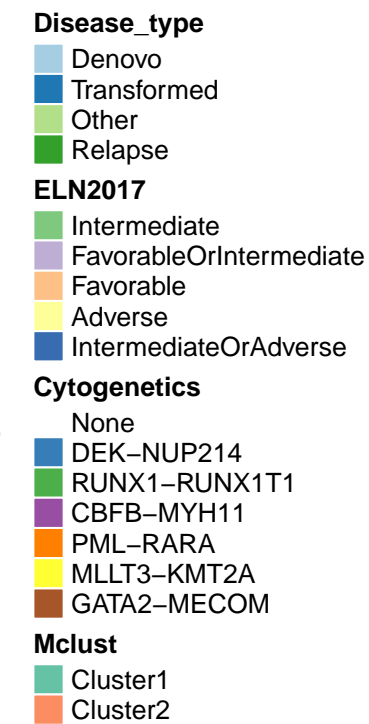
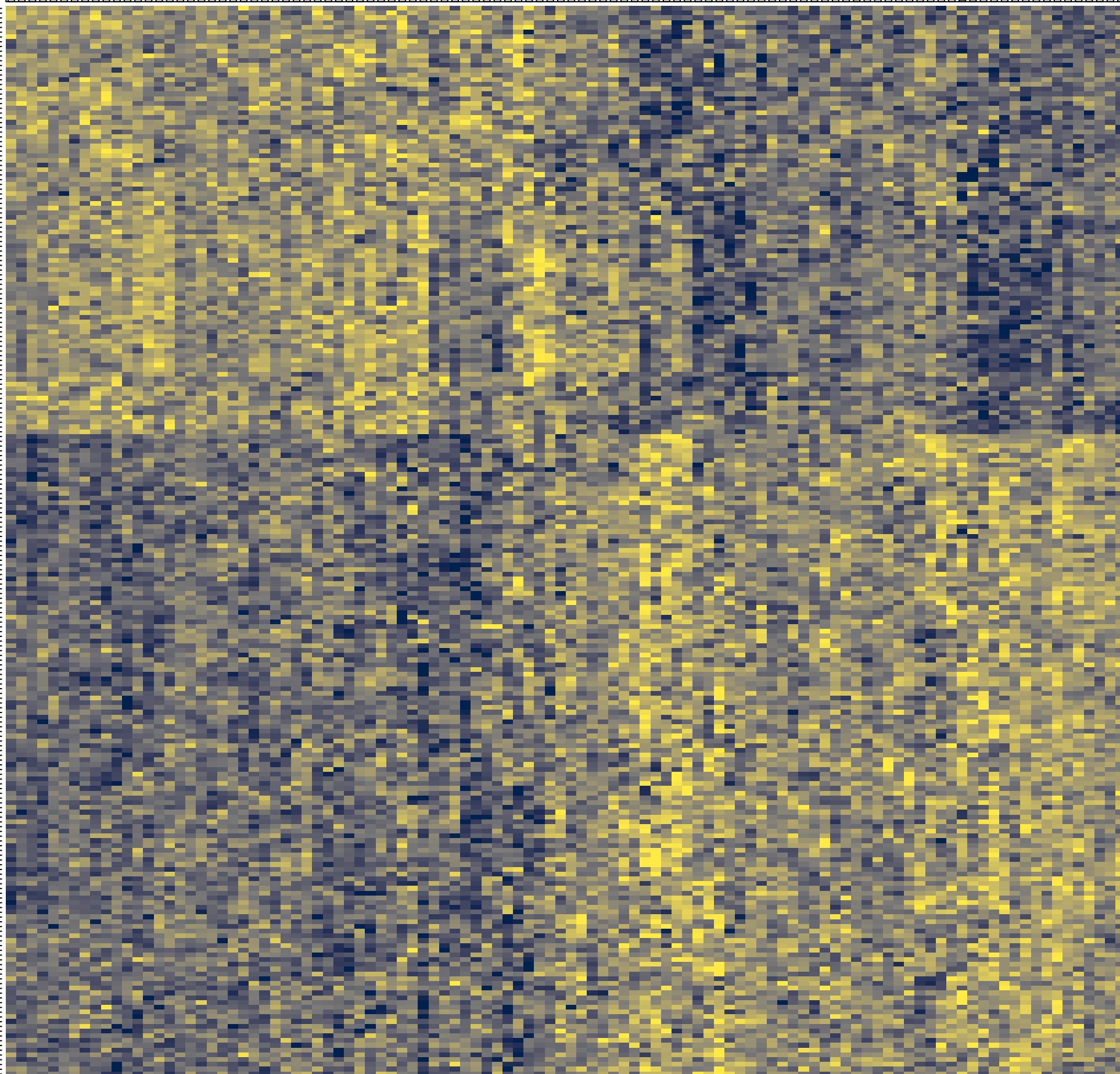
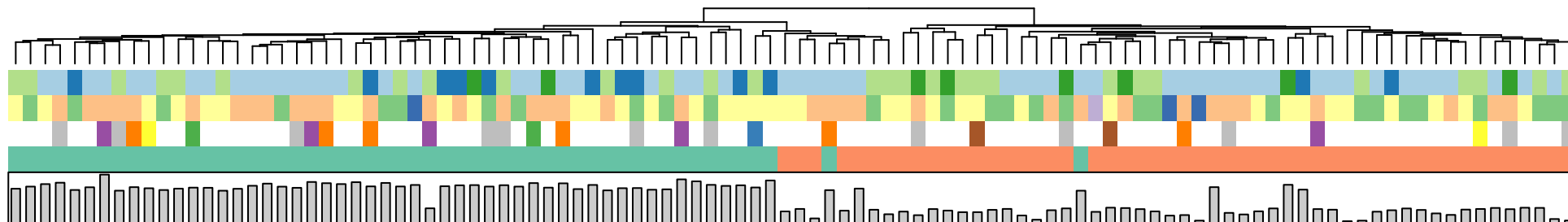
# Significant Gene Expression for Ponatinib (AP24534) Response (n=100)



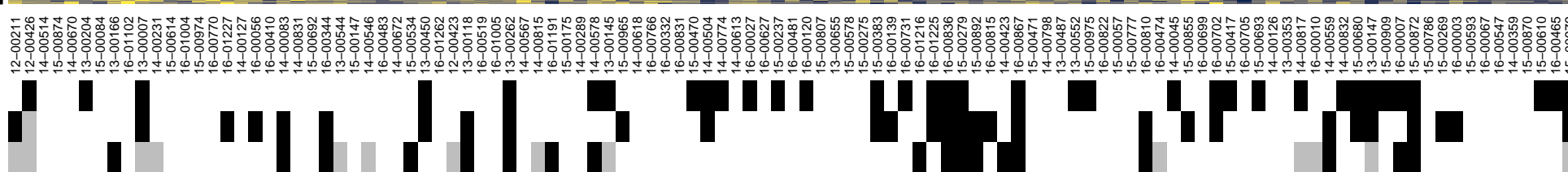
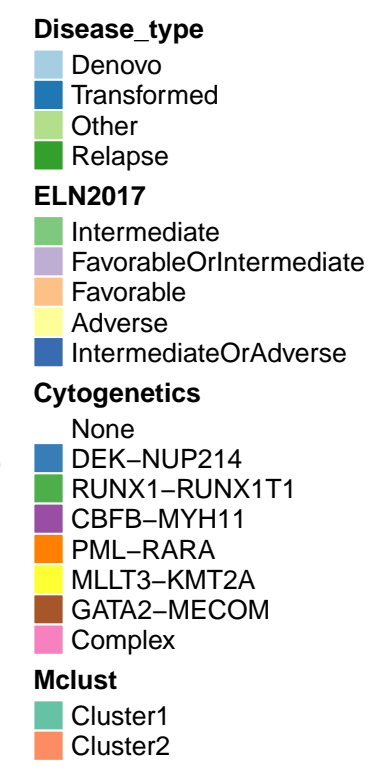
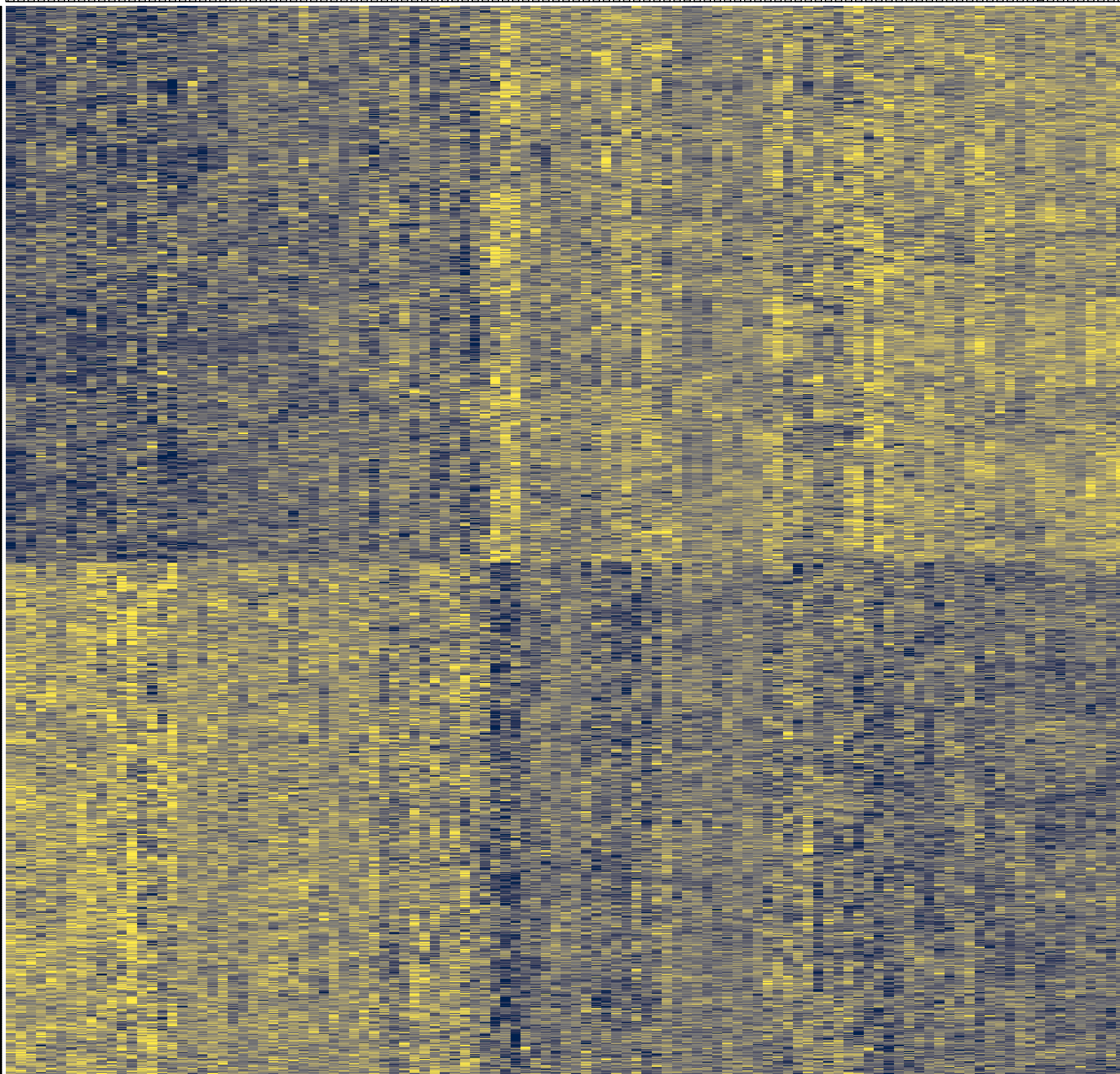
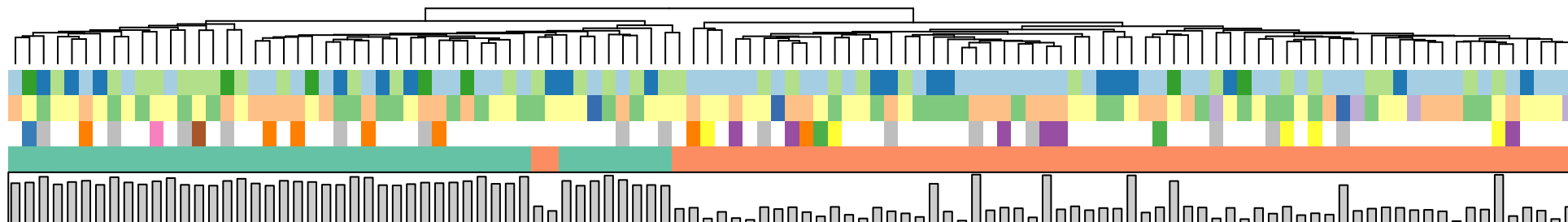
# Significant Gene Expression for Quizartinib (AC220) Response (n=103)



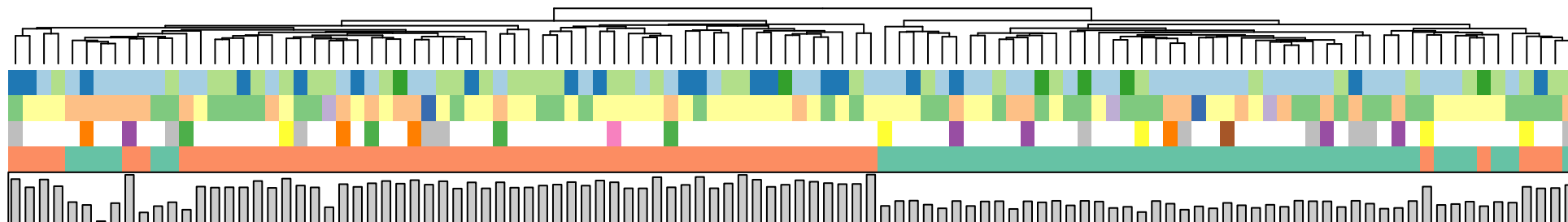
# Significant Gene Expression for RAF265 (CHIR-265) Response (n=106)



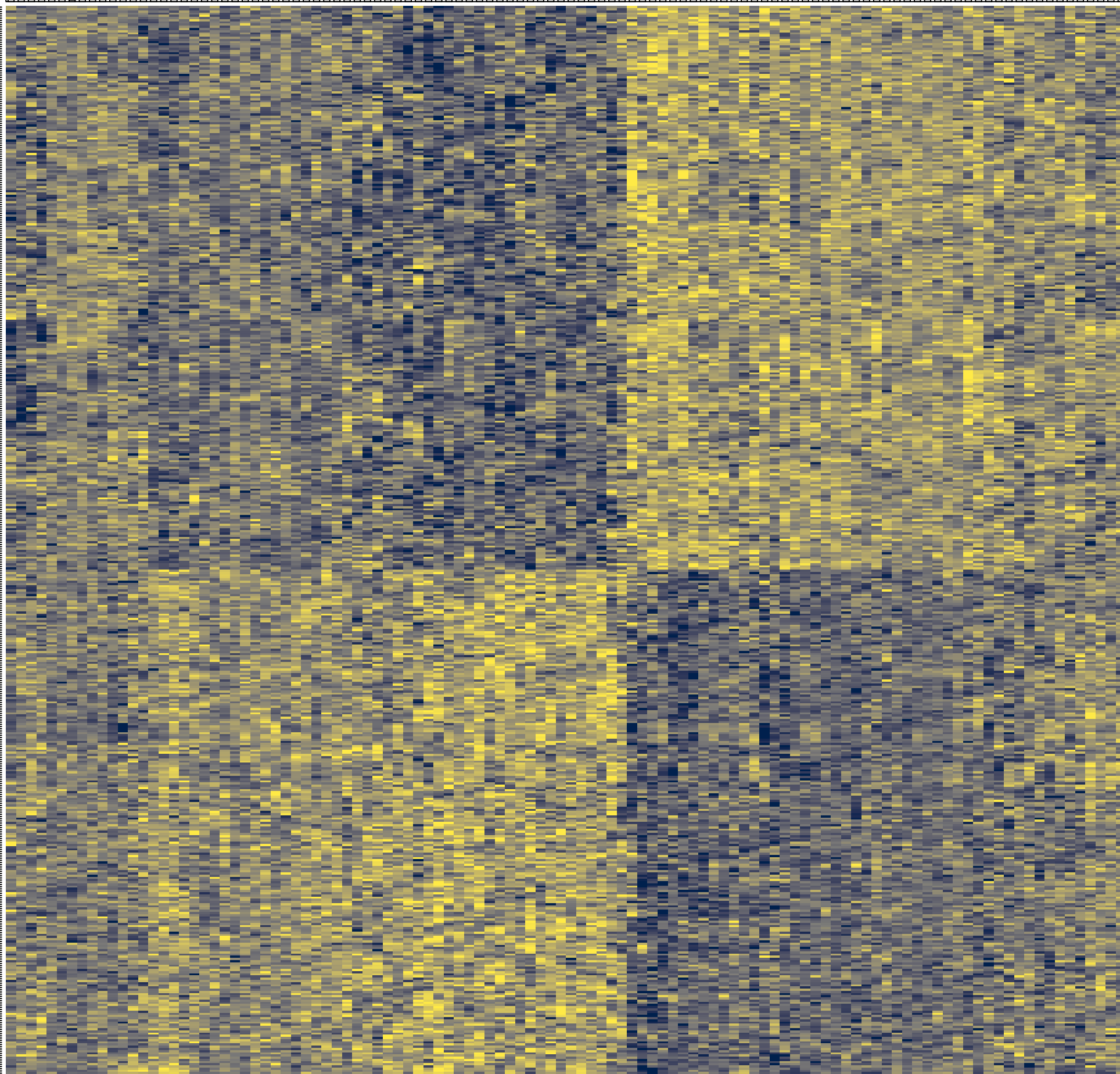
# Significant Gene Expression for Rapamycin Response (n=111)



# Significant Gene Expression for Regorafenib (BAY 73-4506) Response (n=110)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC



**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse

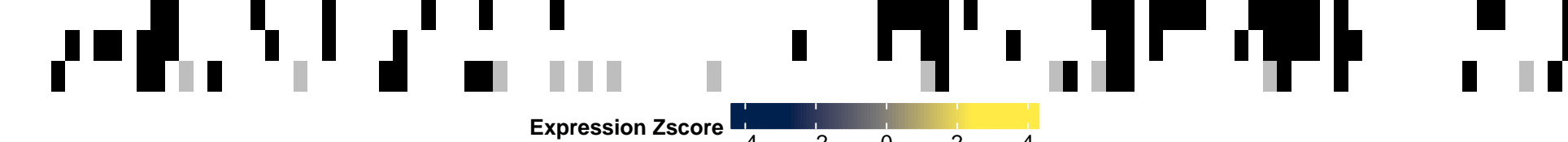
**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 RUNX1-RUNX1T1  
 CFBF-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex

**Mclust**  
 Cluster1  
 Cluster2

488 Genes

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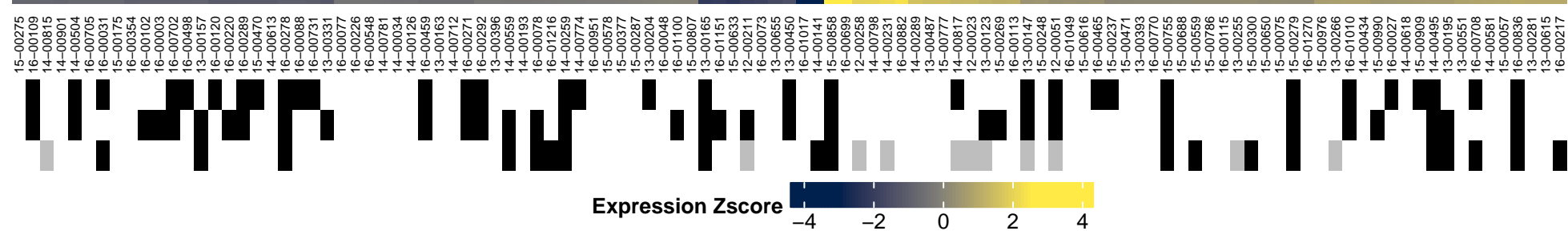
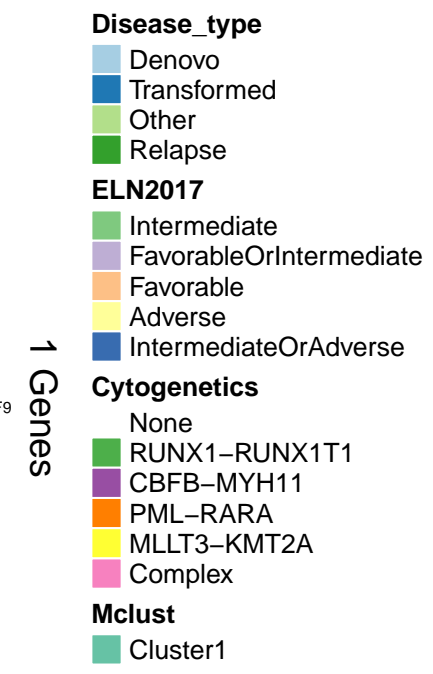
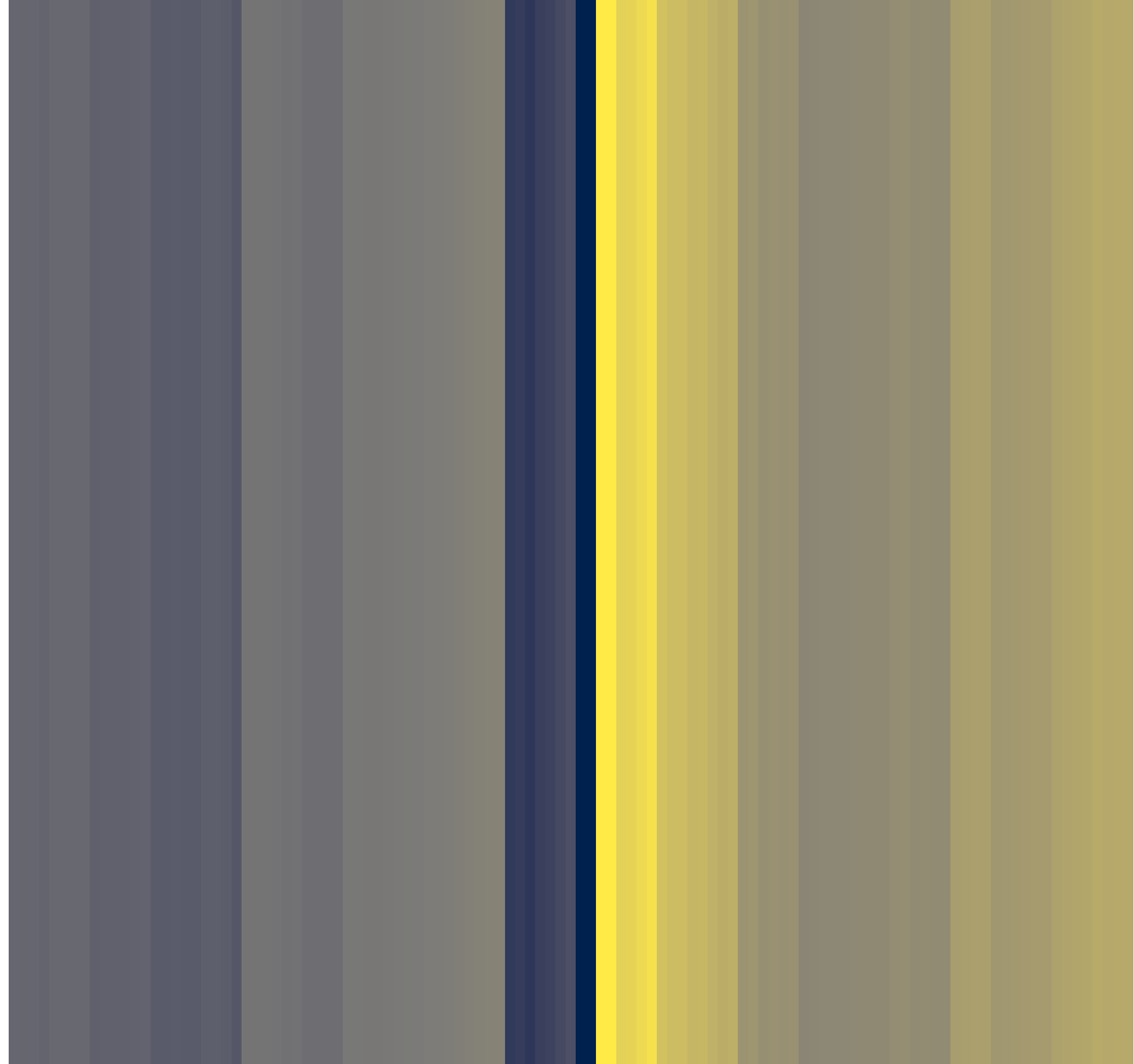
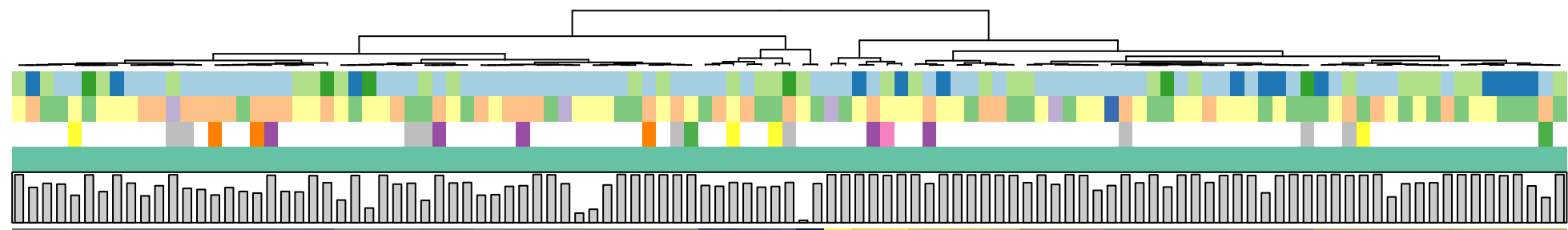


FLT3\_ITD  
NPM1  
DNMT3A

Expression Zscore -4 -2 0 2 4

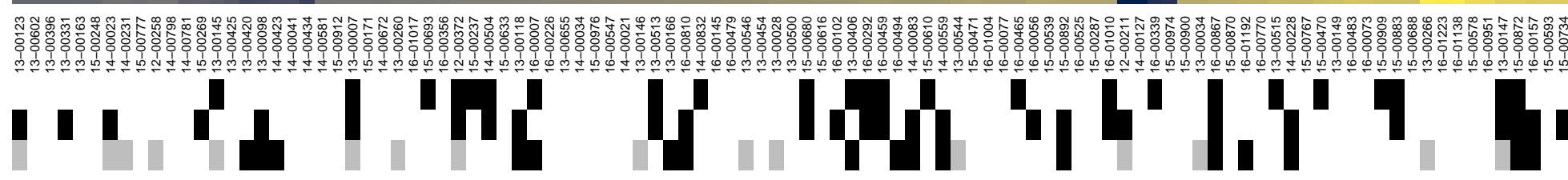
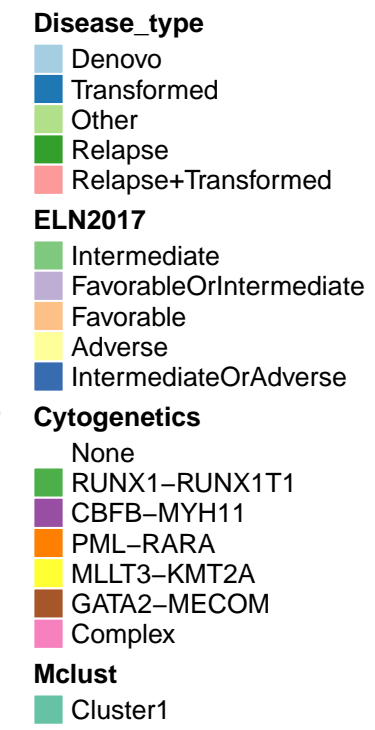
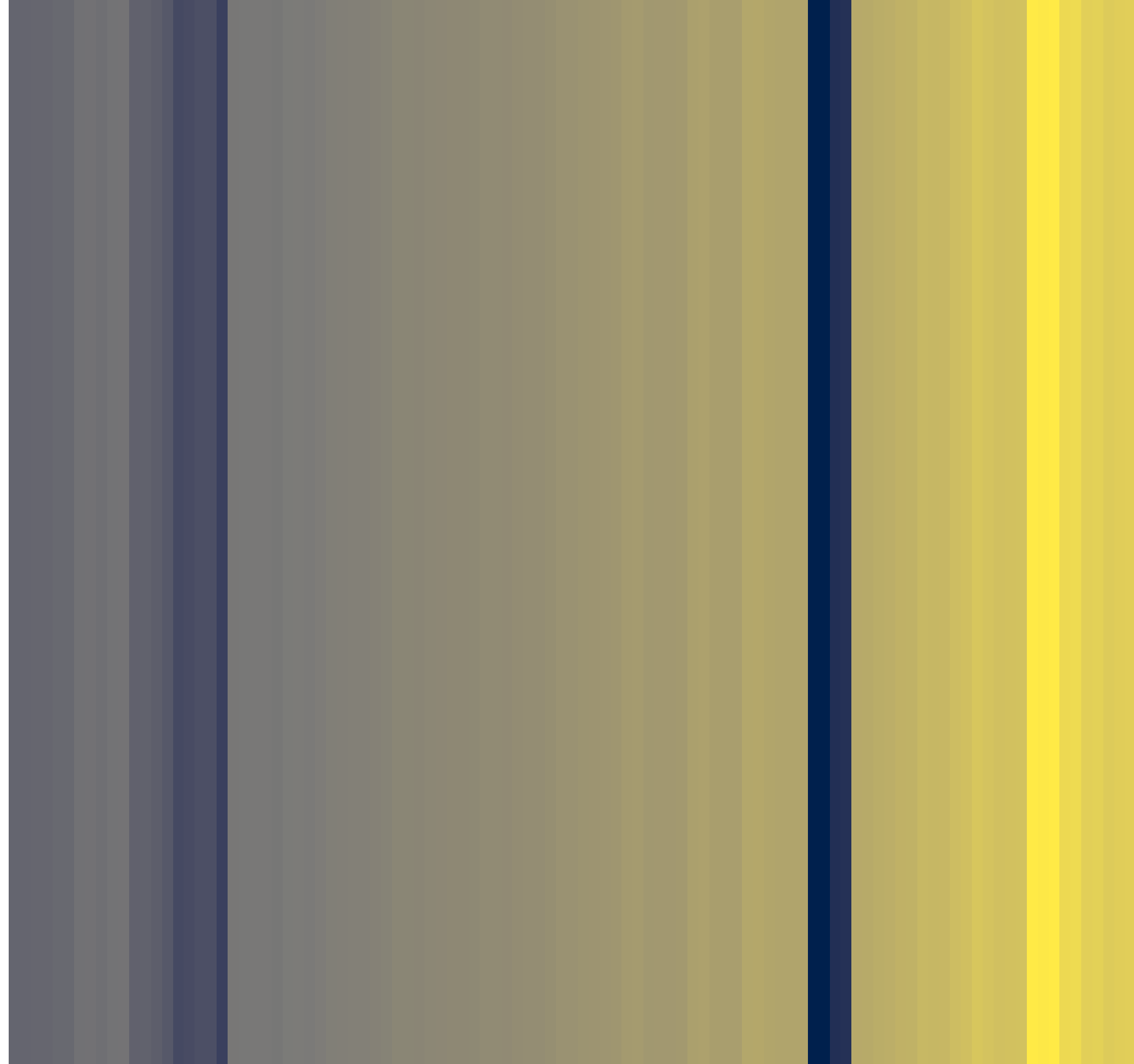
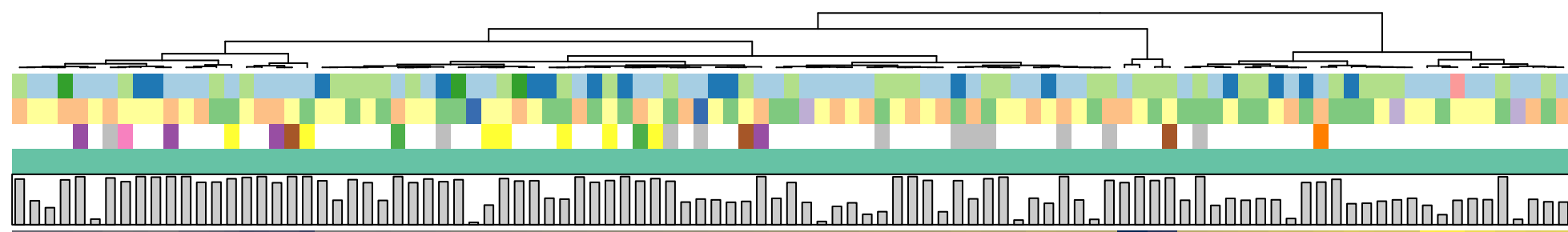


# Significant Gene Expression for Roscovitine (CYC-202) Response (n=111)



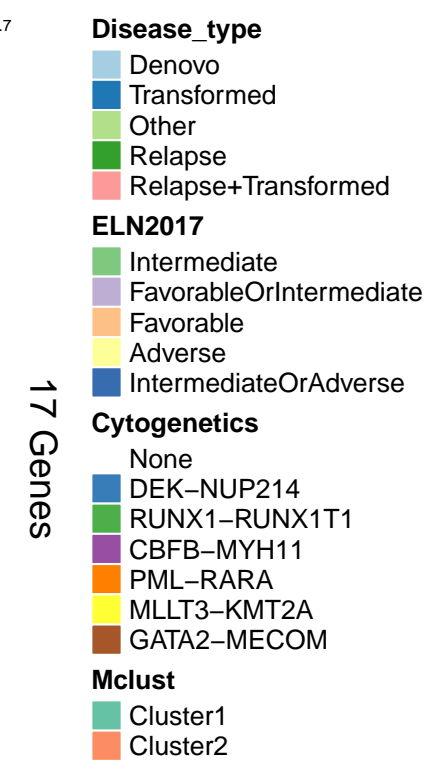
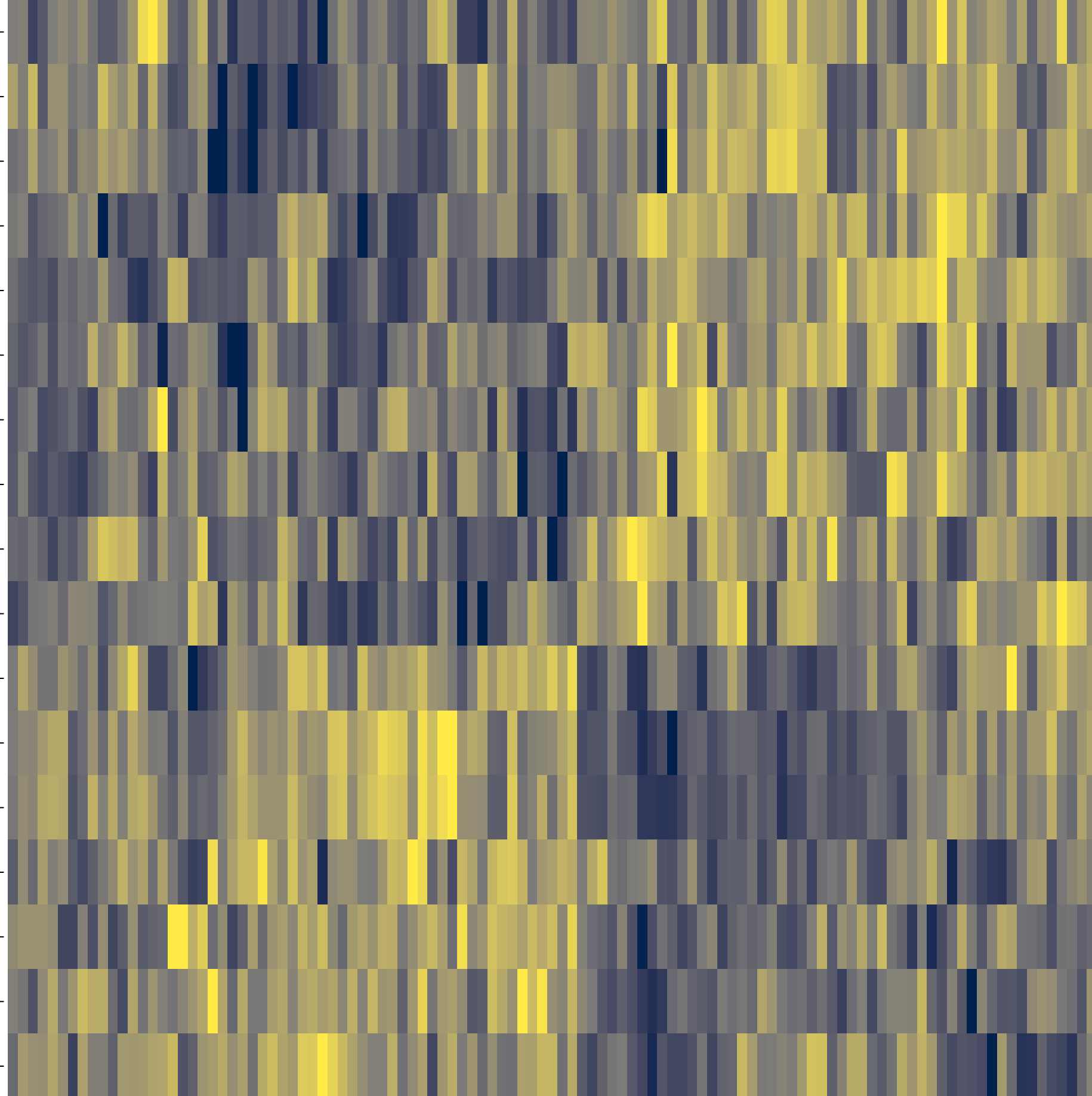
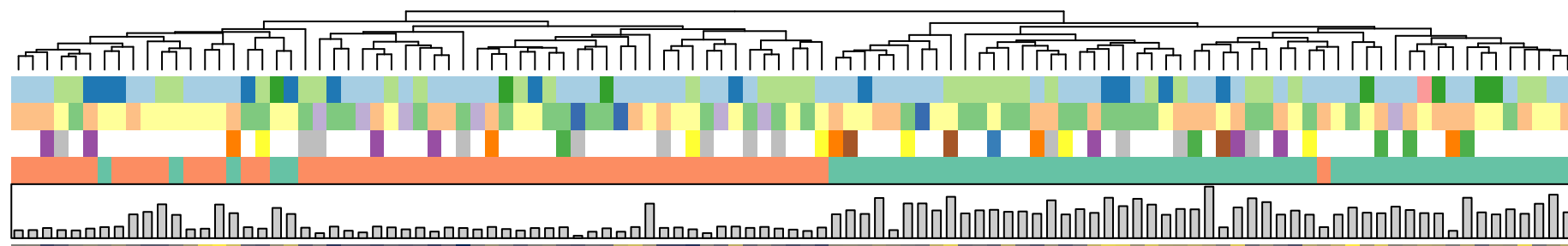
MEGF9  
1 Genes

# Significant Gene Expression for Ruxolitinib (INCB018424) Response (n=103)

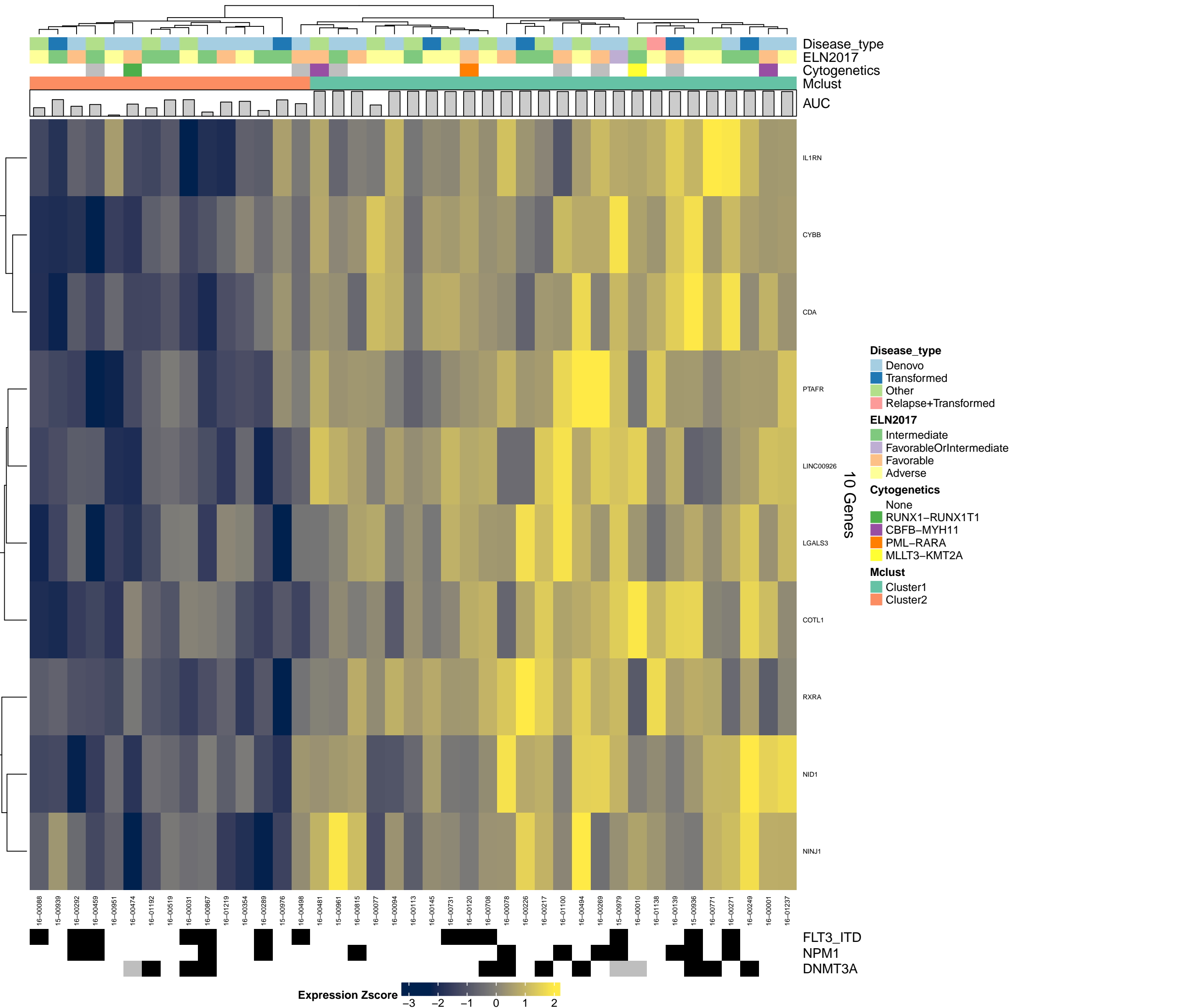


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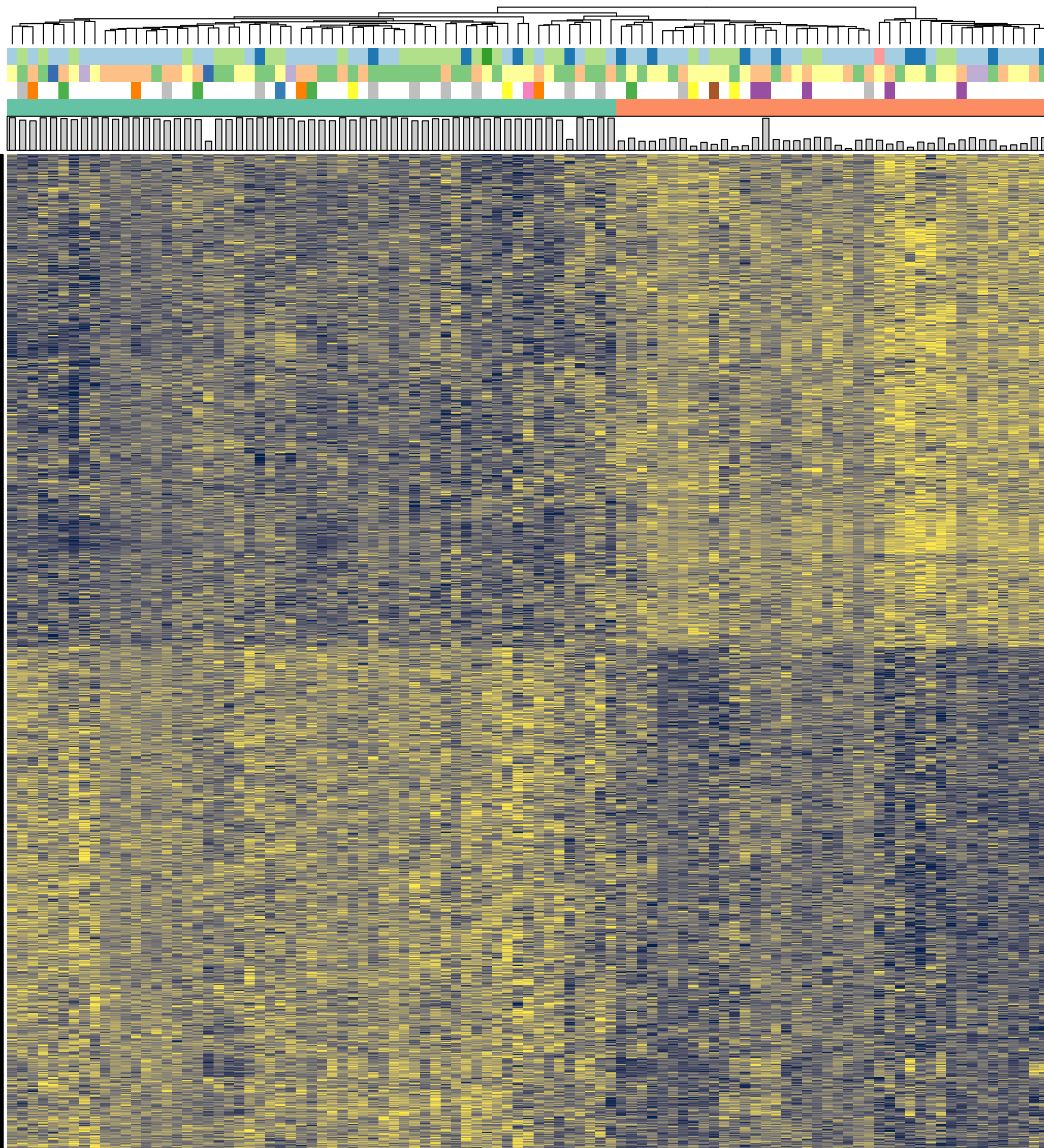
# Significant Gene Expression for SNS-032 (BMS-387032) Response (n=109)



# Significant Gene Expression for SR9011 Response (n=41)



# Significant Gene Expression for Selumetinib (AZD6244) Response (n=101)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

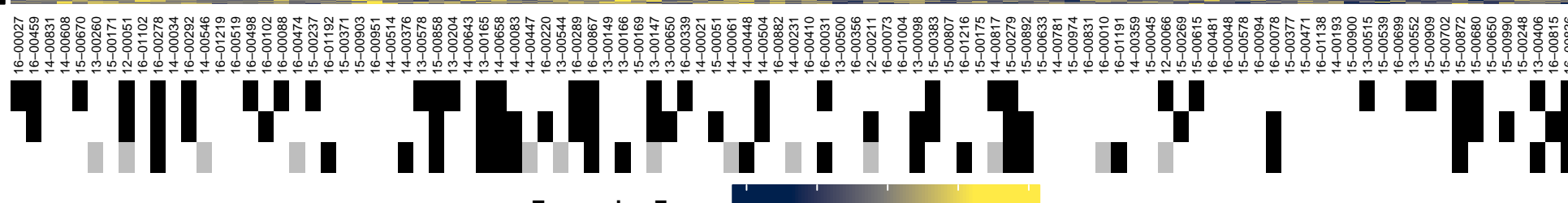
**Disease\_type**  
 Denovo  
 Transformed  
 Other  
 Relapse  
 Relapse+Transformed

**ELN2017**  
 Intermediate  
 FavorableOrIntermediate  
 Favorable  
 Adverse  
 IntermediateOrAdverse

**Cytogenetics**  
 None  
 DEK-NUP214  
 RUNX1-RUNX1T1  
 CBFβ-MYH11  
 PML-RARA  
 MLLT3-KMT2A  
 GATA2-MECOM  
 Complex

**Mclust**  
 Cluster1  
 Cluster2

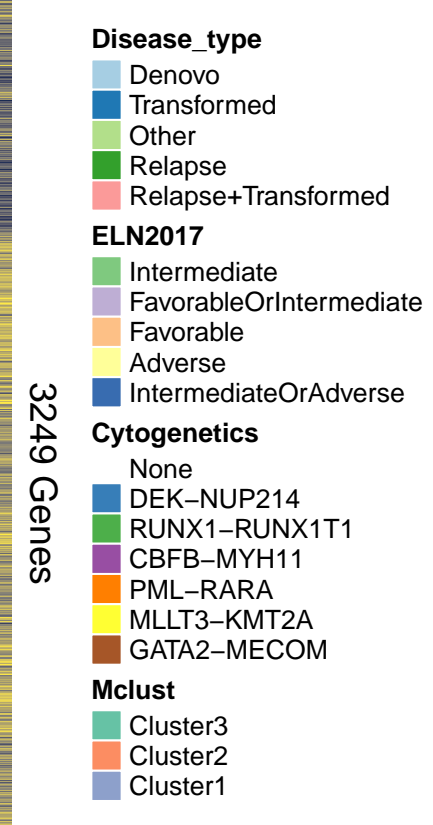
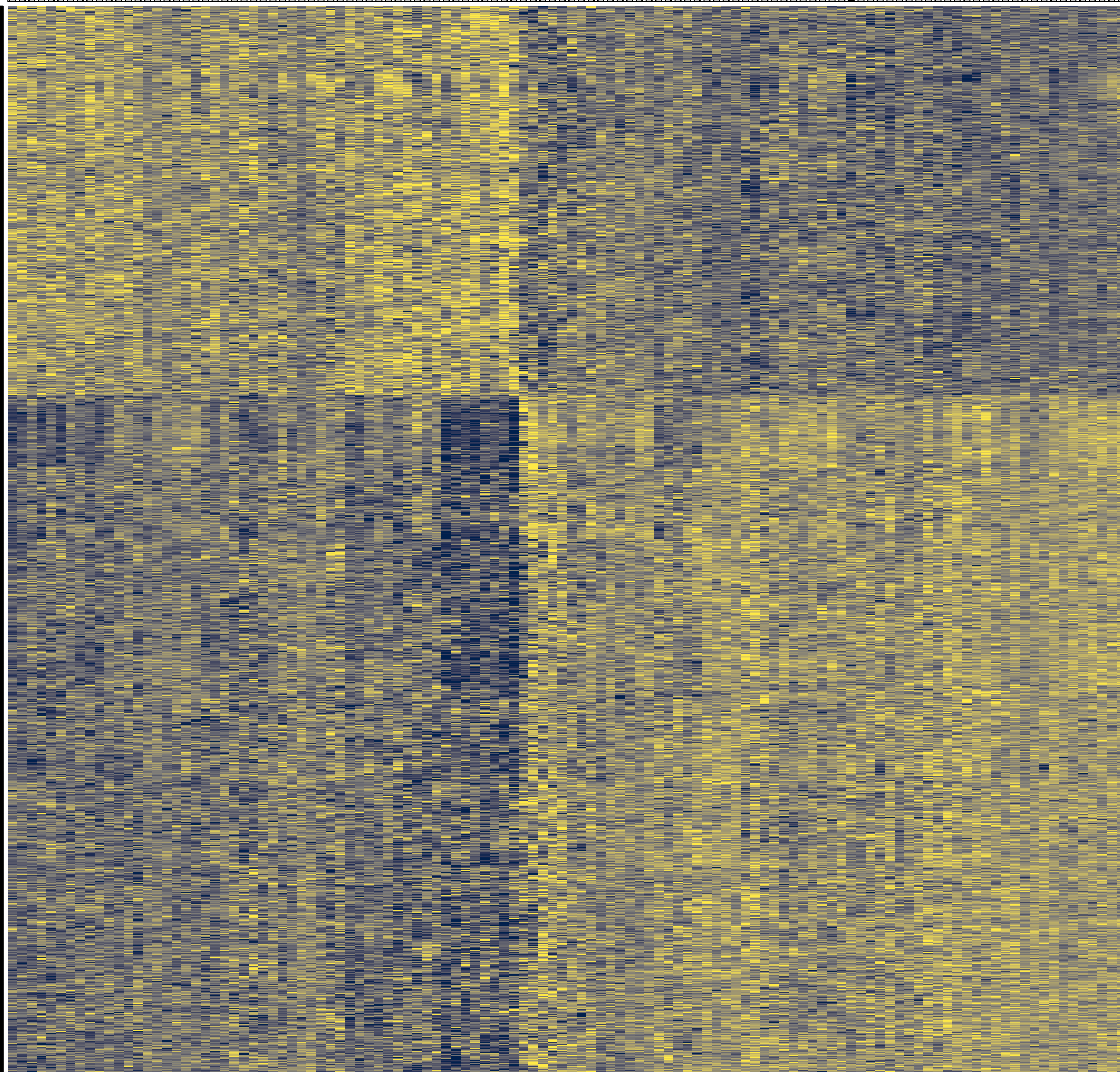
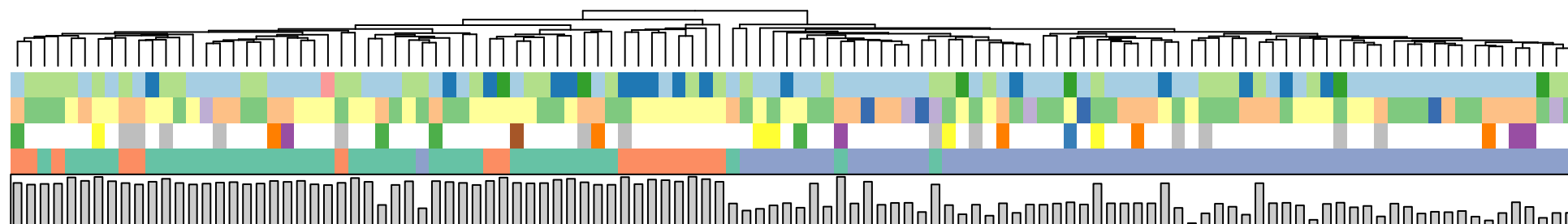
2189 Genes



FLT3\_ITD  
NPM1  
DNMT3A

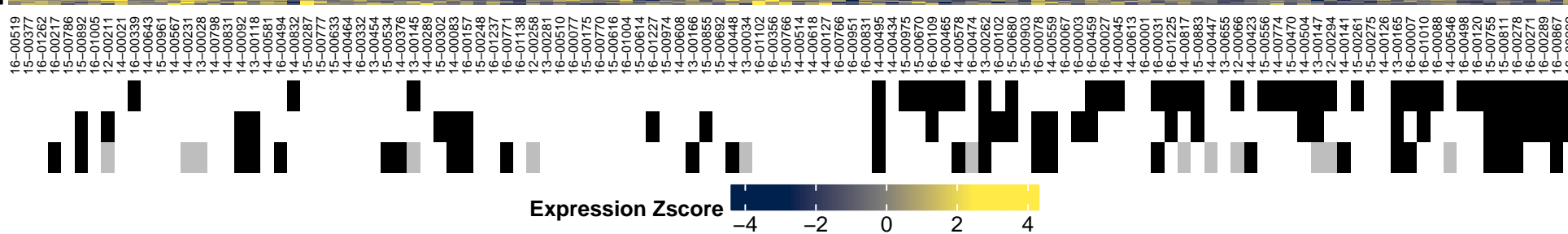
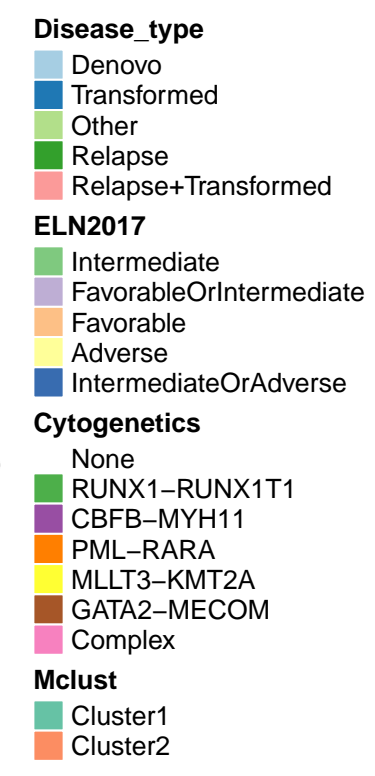
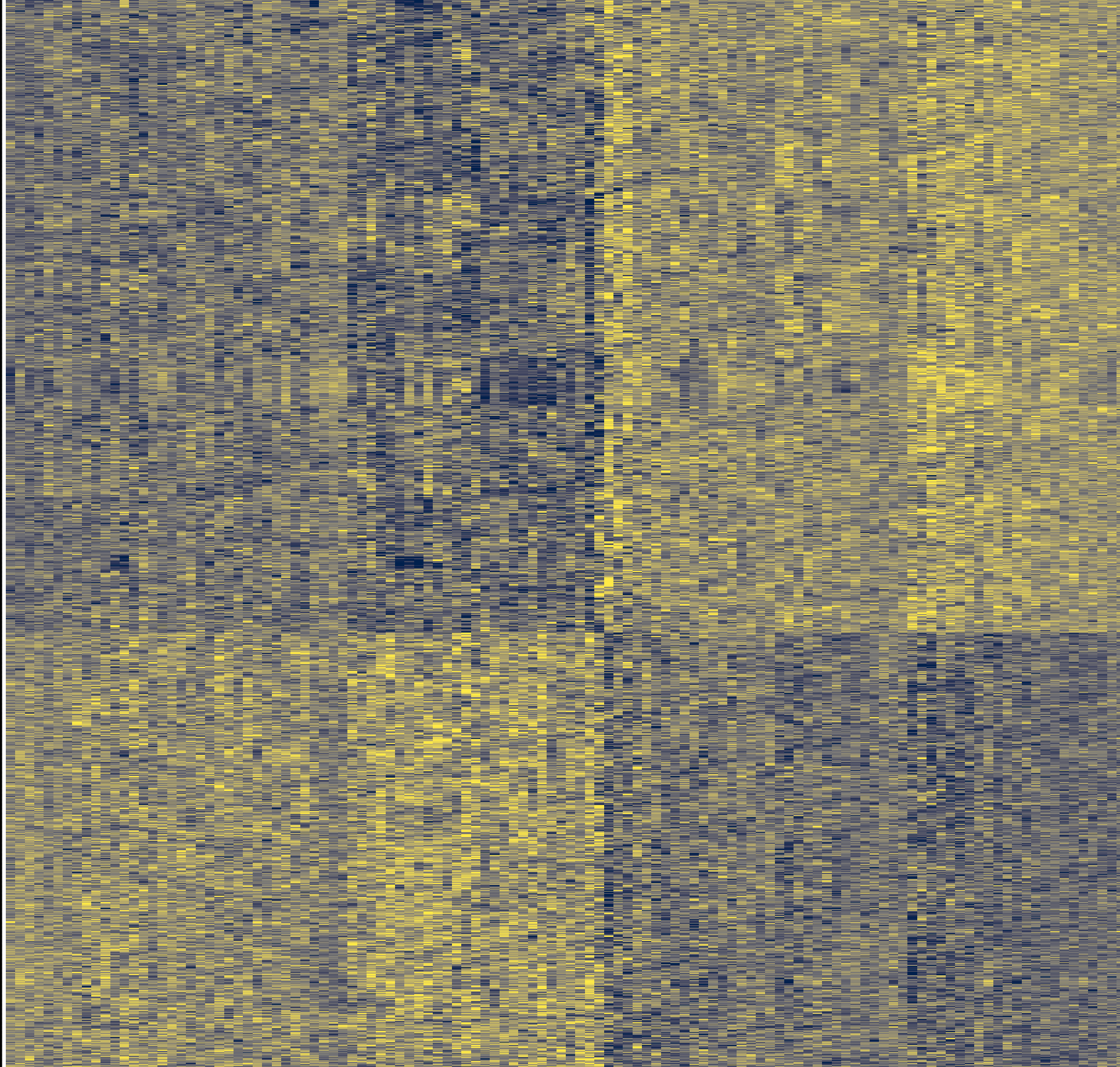
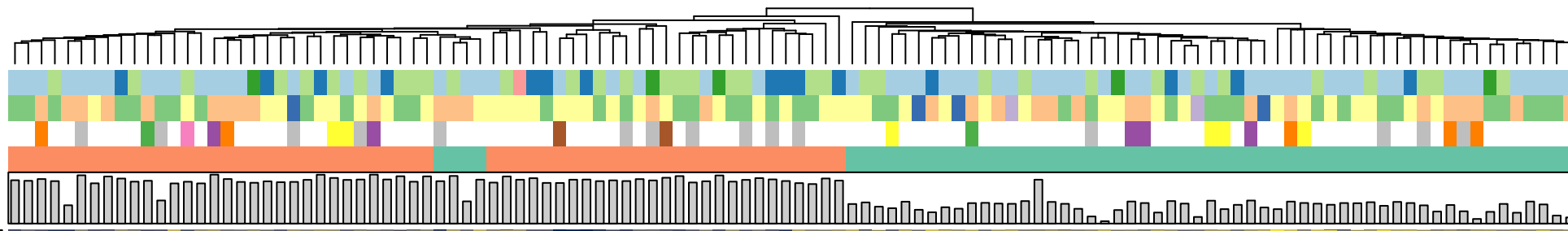
Expression Zscore -4 -2 0 2 4

# Significant Gene Expression for Sorafenib Response (n=116)

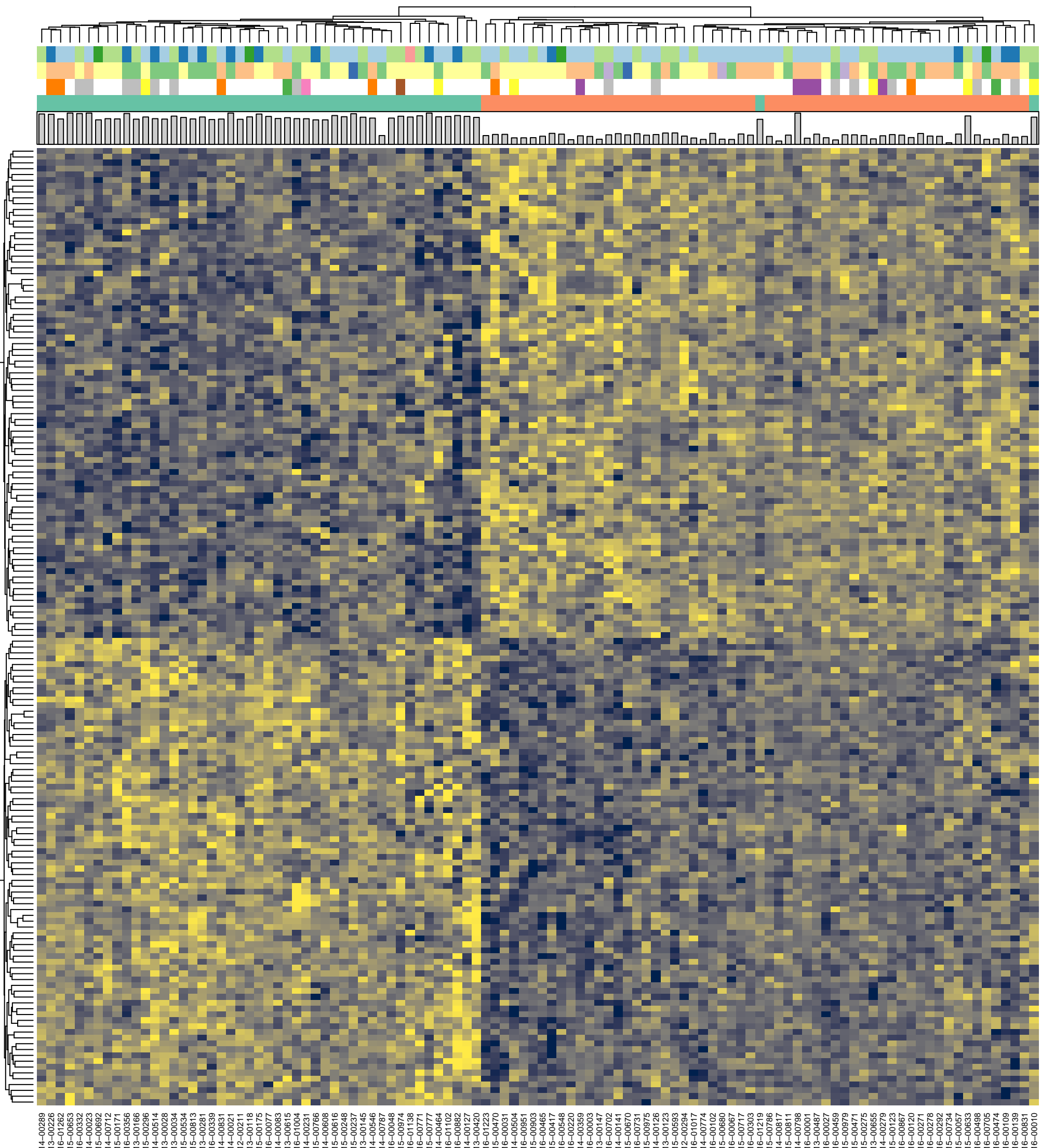


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# Significant Gene Expression for Sunitinib Response (n=118)



# Significant Gene Expression for Tivozanib (AV-951) Response (n=106)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

- Disease\_type**
- Denovo
  - Transformed
  - Other
  - Relapse
  - Relapse+Transformed
- ELN2017**
- Intermediate
  - FavorableOrIntermediate
  - Favorable
  - Adverse
  - IntermediateOrAdverse
- Cytogenetics**
- None
  - RUNX1-RUNX1T1
  - CBFB-MYH11
  - PML-RARA
  - MLLT3-KMT2A
  - GATA2-MECOM
  - Complex
- Mclust**
- Cluster1
  - Cluster2

164 Genes

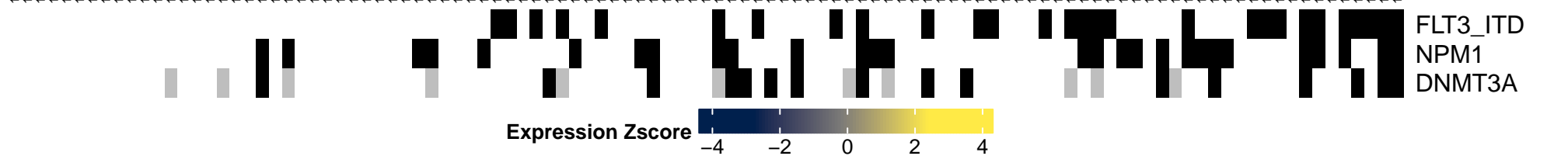
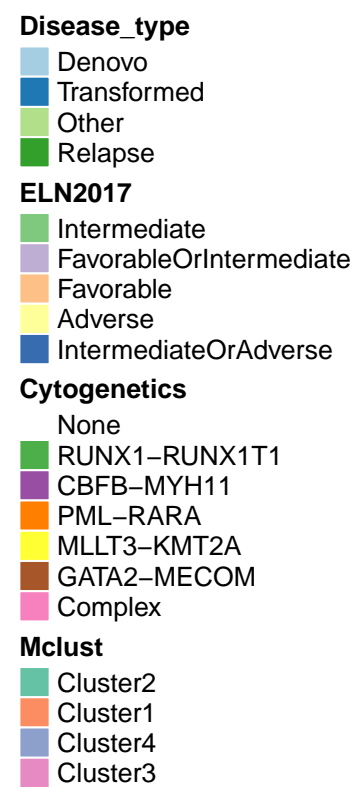
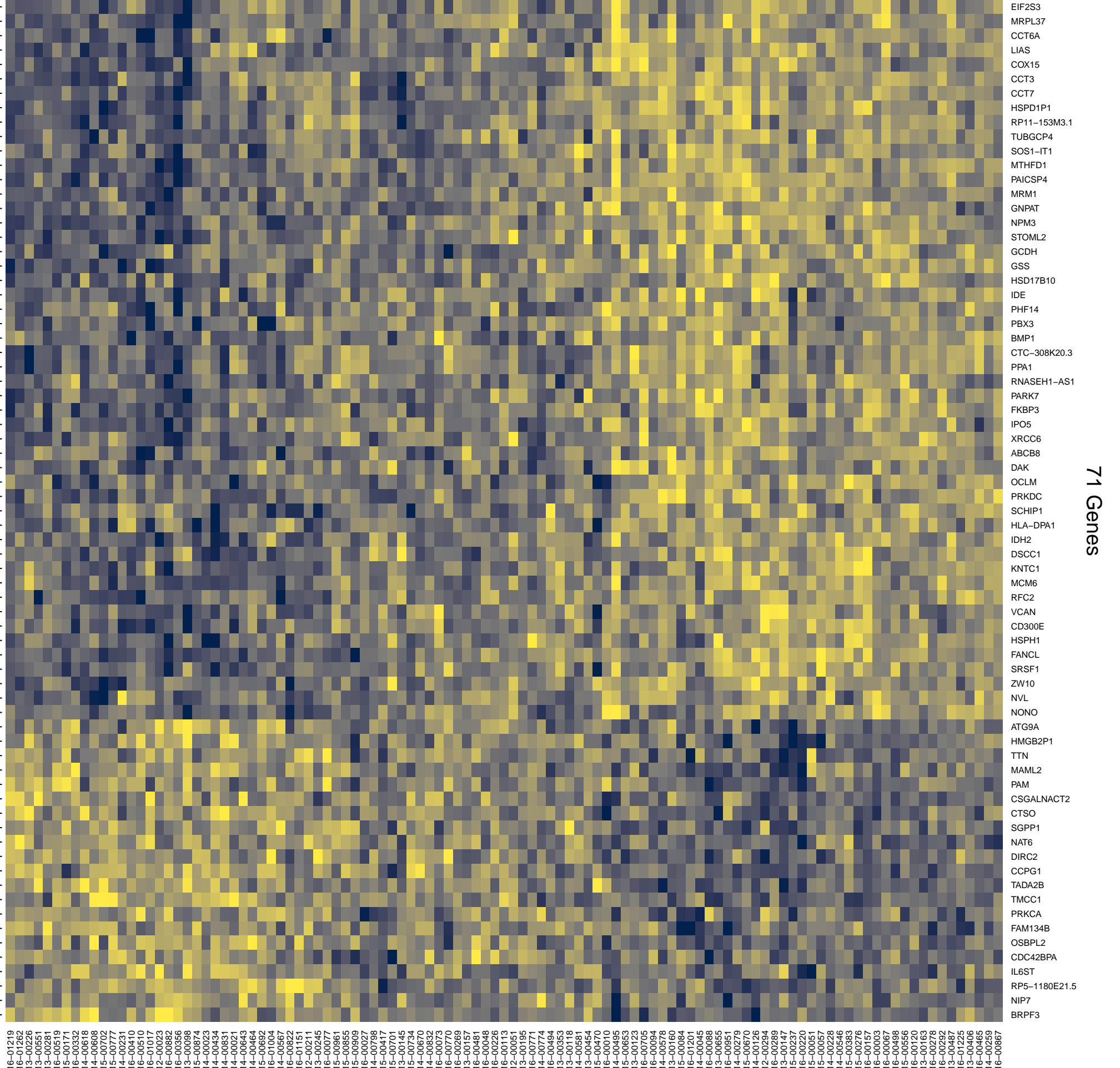
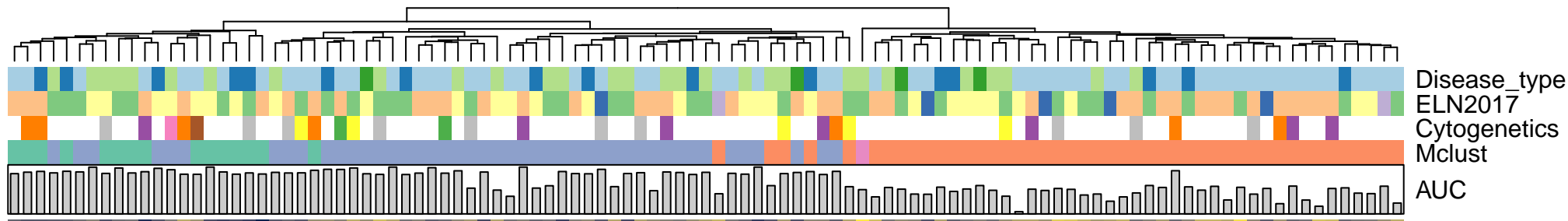
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FLT3\_ITD  
NPM1  
DNMT3A

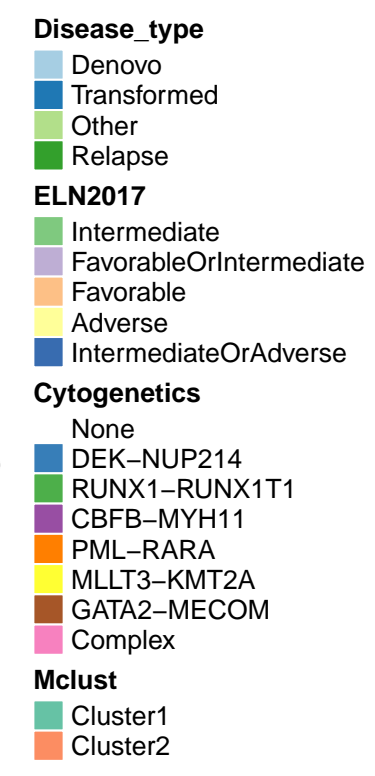
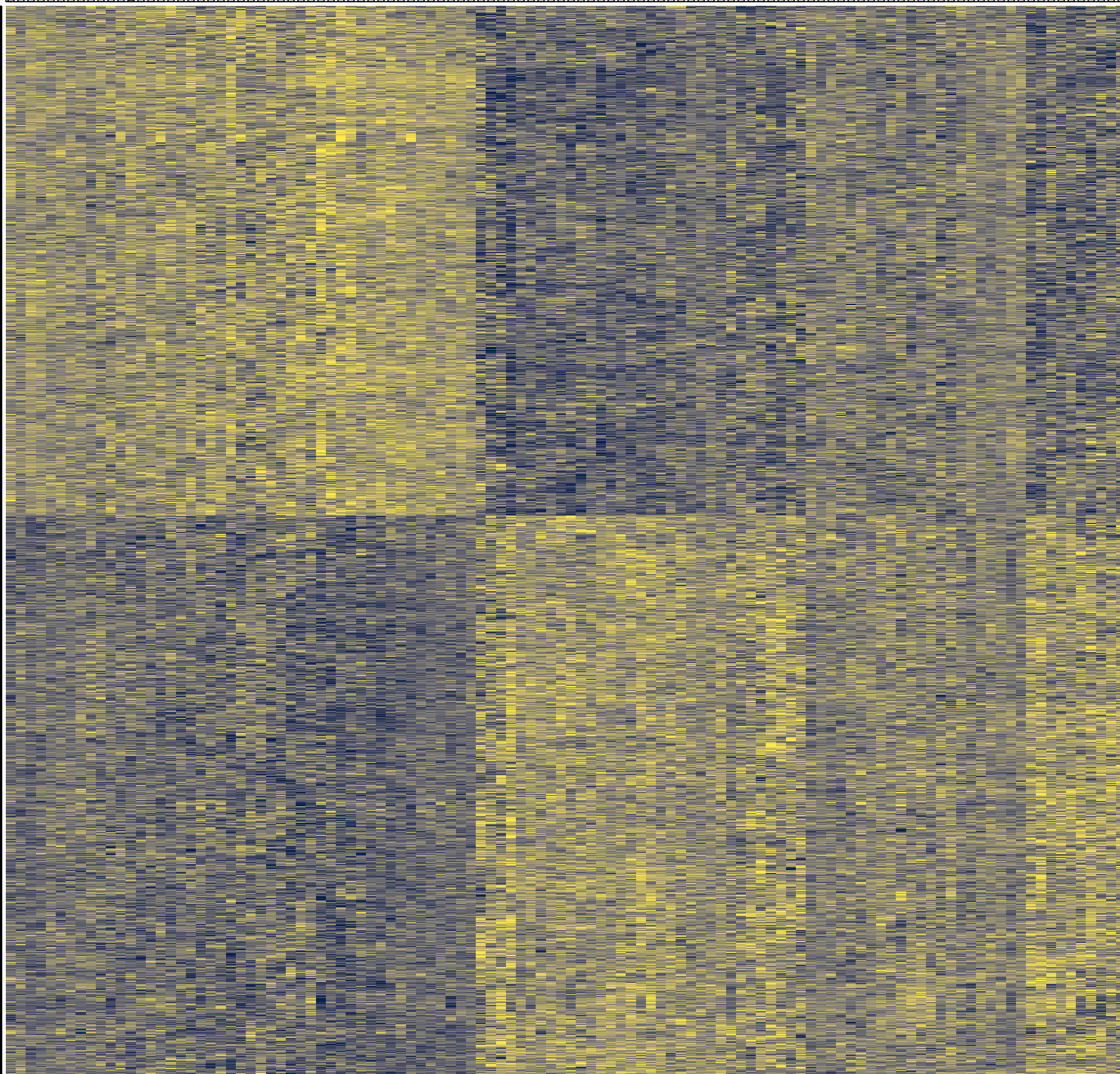
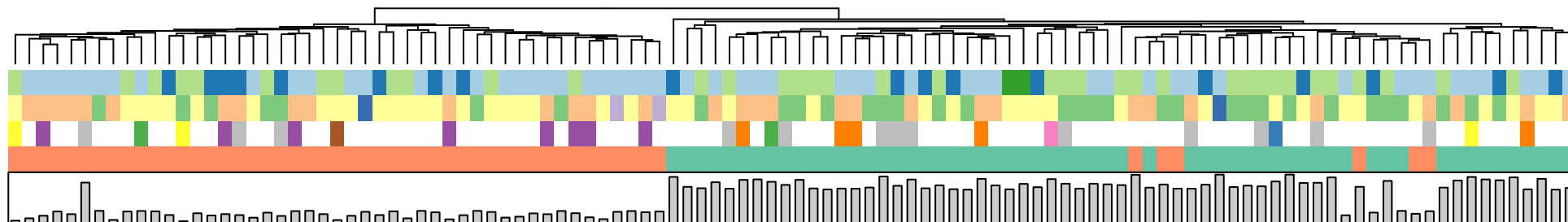




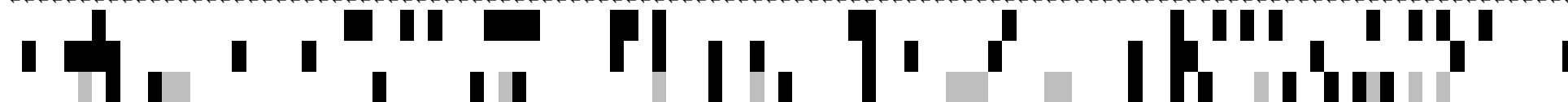
# Significant Gene Expression for Tozasertib (VX-680) Response (n=107)



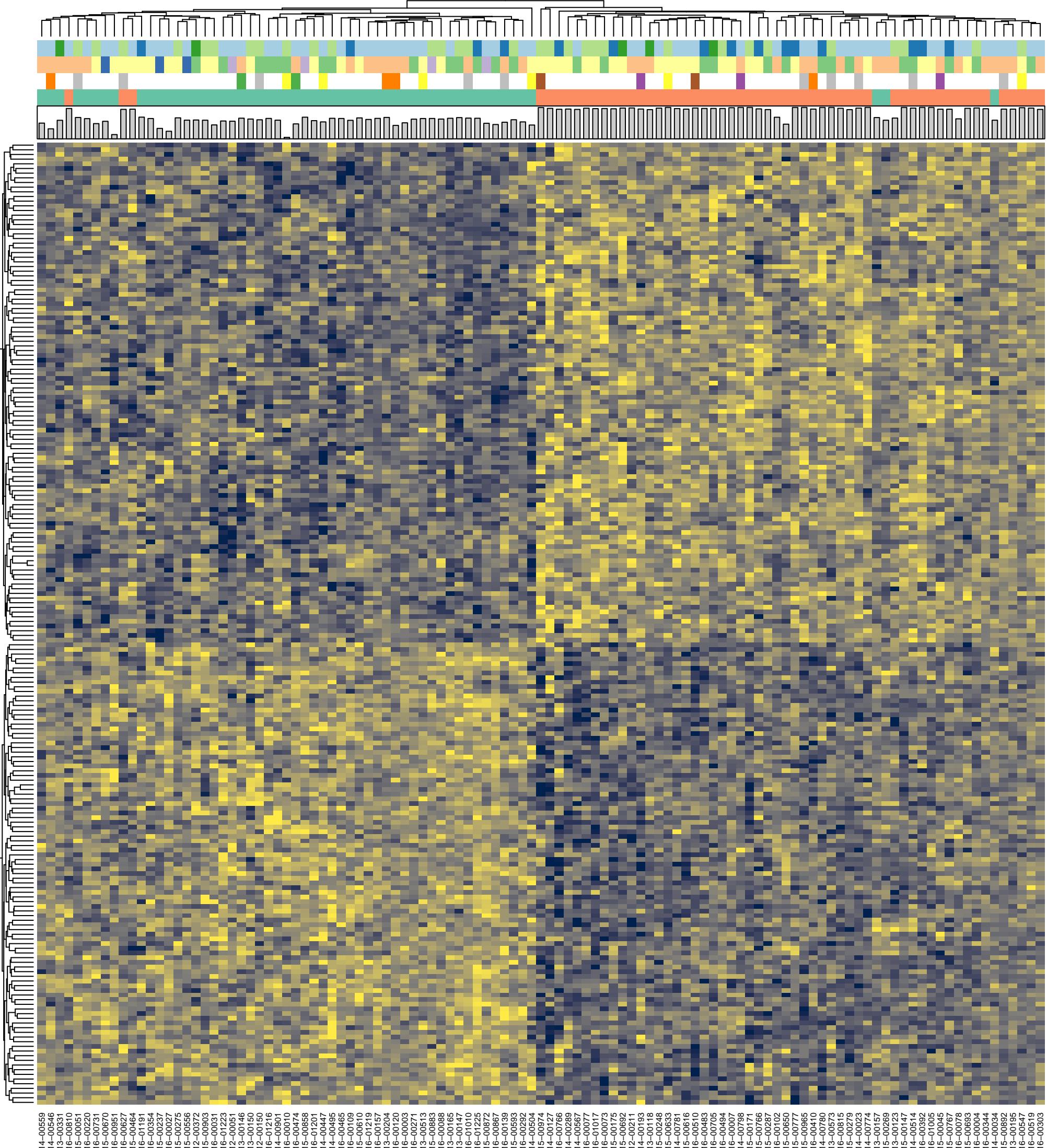
# Significant Gene Expression for Trametinib (GSK1120212) Response (n=112)



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# Significant Gene Expression for Vandetanib (ZD6474) Response (n=111)



Disease\_type  
ELN2017  
Cytogenetics  
Mclust  
AUC

206 Genes

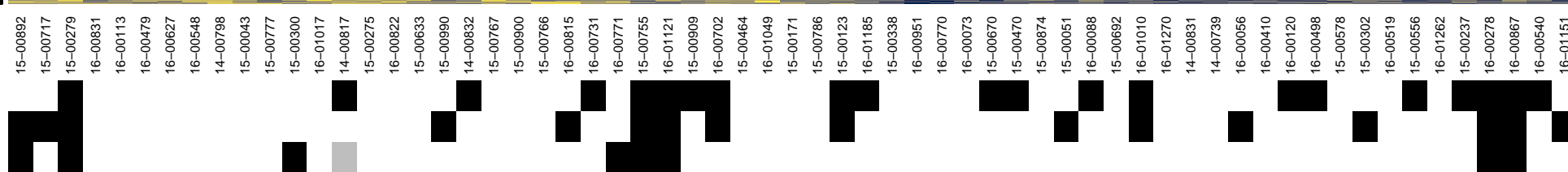
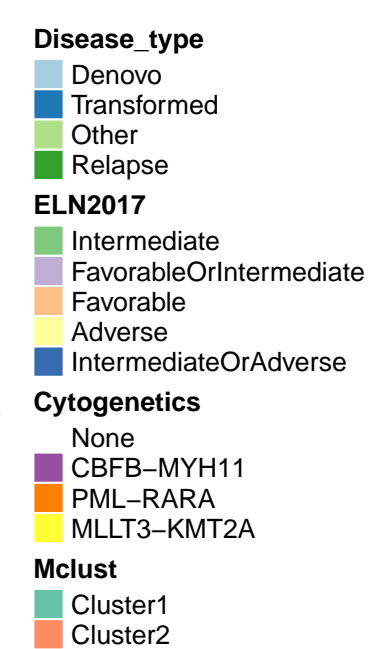
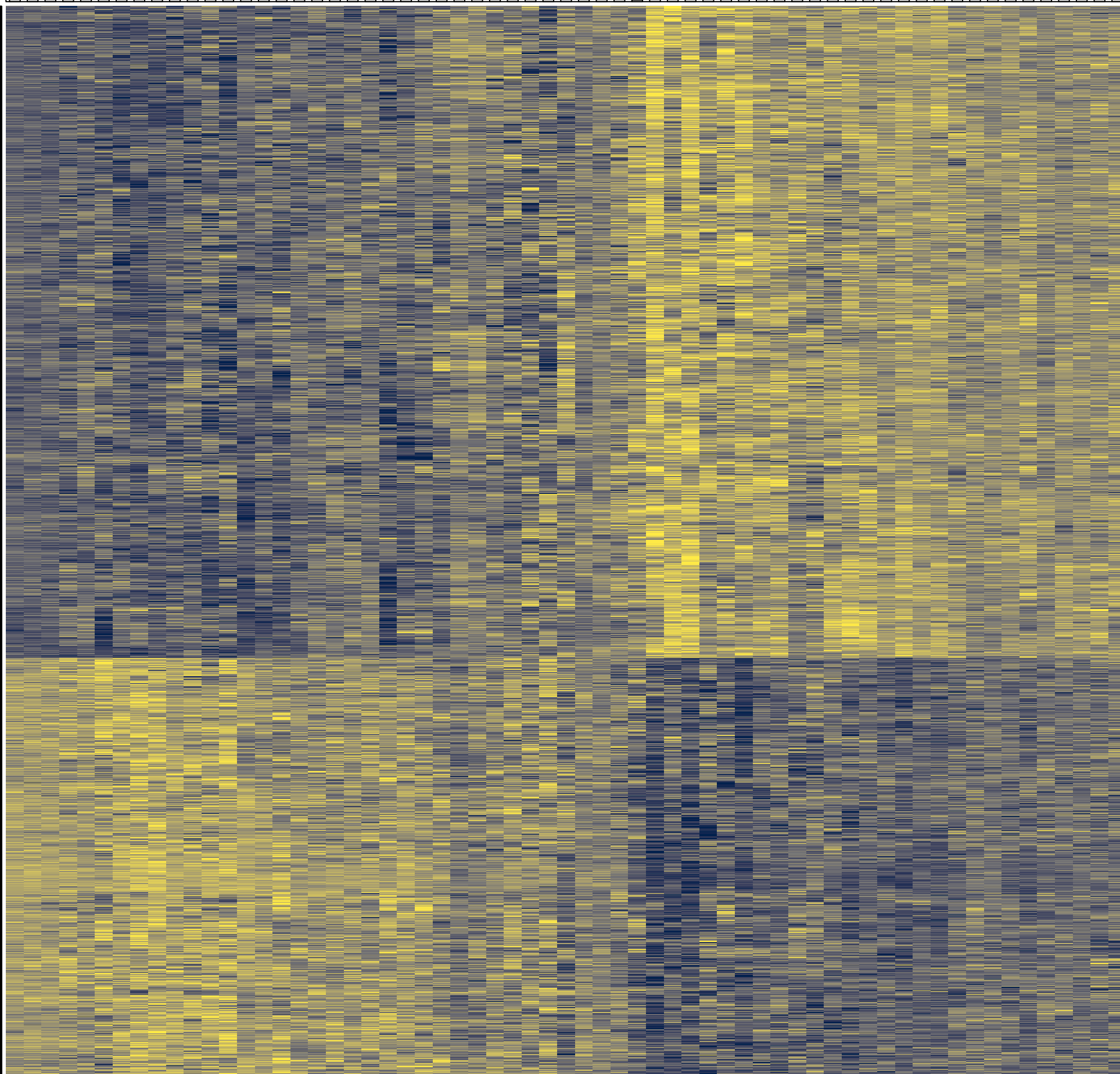
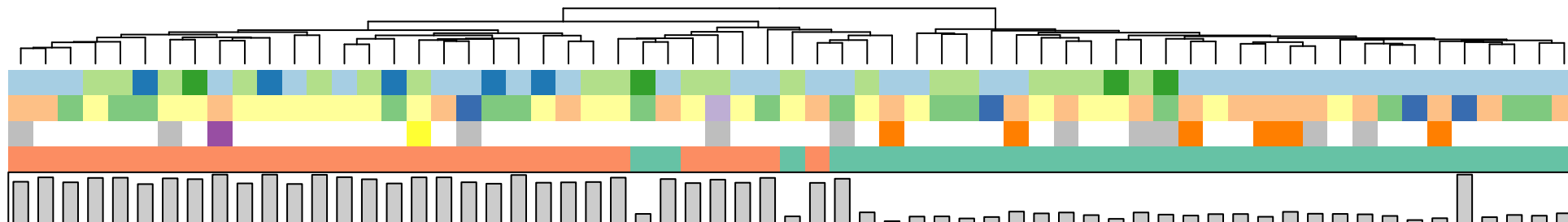
- Disease\_type**
- Denovo
  - Transformed
  - Other
  - Relapse
- ELN2017**
- Intermediate
  - FavorableOrIntermediate
  - Favorable
  - Adverse
  - IntermediateOrAdverse
- Cytogenetics**
- None
  - RUNX1-RUNX1T1
  - CBFB-MYH11
  - PML-RARA
  - MLLT3-KMT2A
  - GATA2-MECOM
- Mclust**
- Cluster1
  - Cluster2

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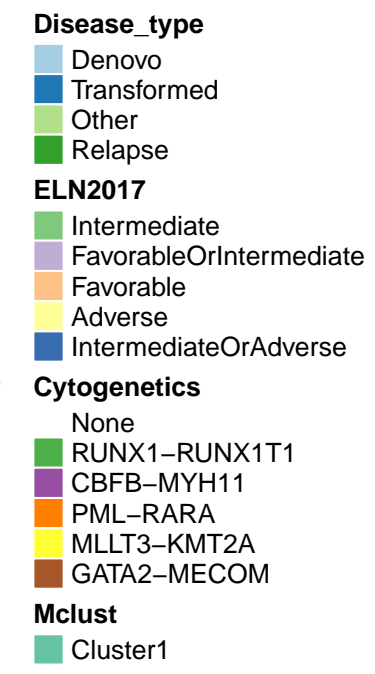
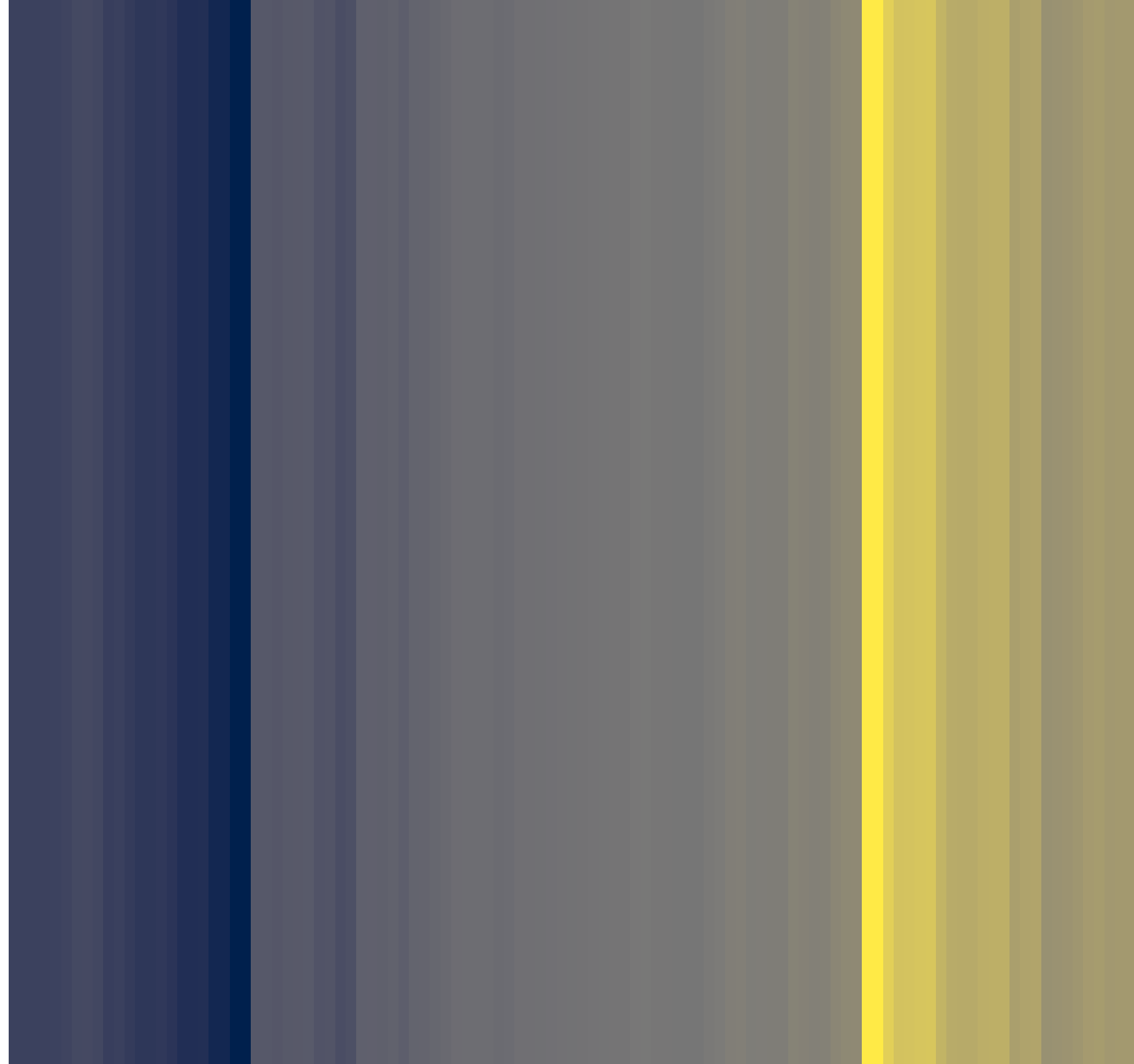
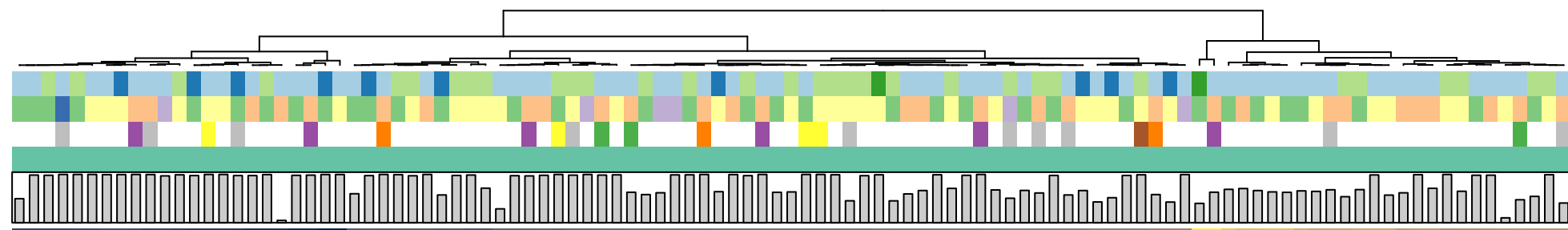
FLT3\_ITD  
NPM1  
DNMT3A



# Significant Gene Expression for Venetoclax Response (n=63)



# Significant Gene Expression for XAV-939 Response (n=107)



PHF11  
1 Genes



# Significant Gene Expression for YM-155 Response (n=113)

