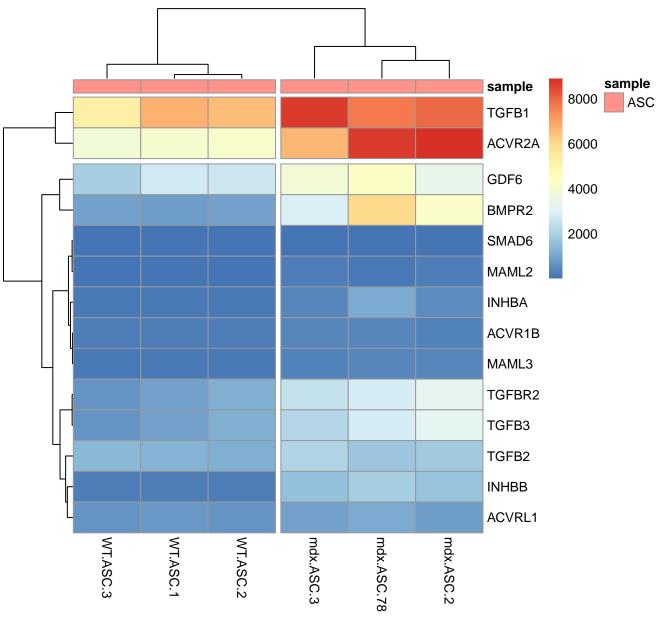
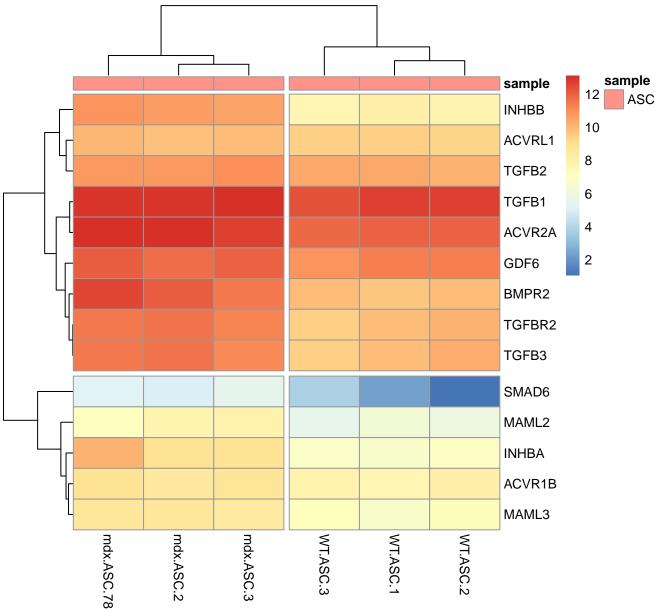
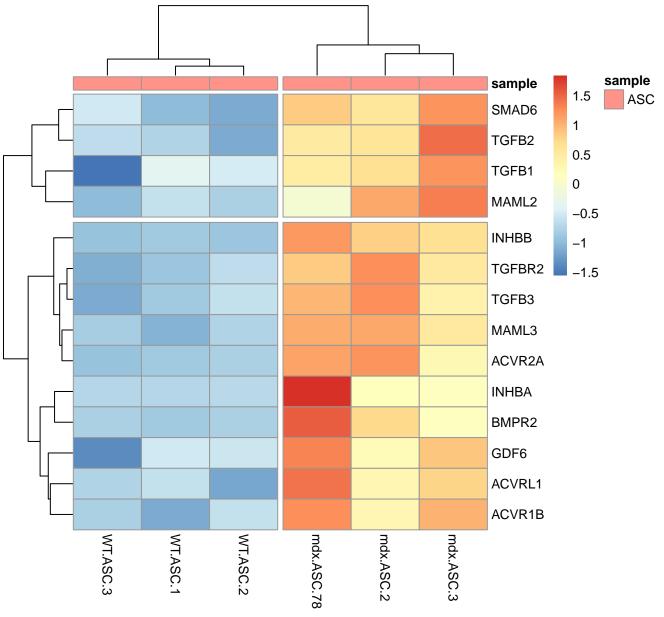
Expressed Matrix from Normalized for genes in INOH\_MM\_BMP2\_SIGNALING\_TGF-BETA\_MV



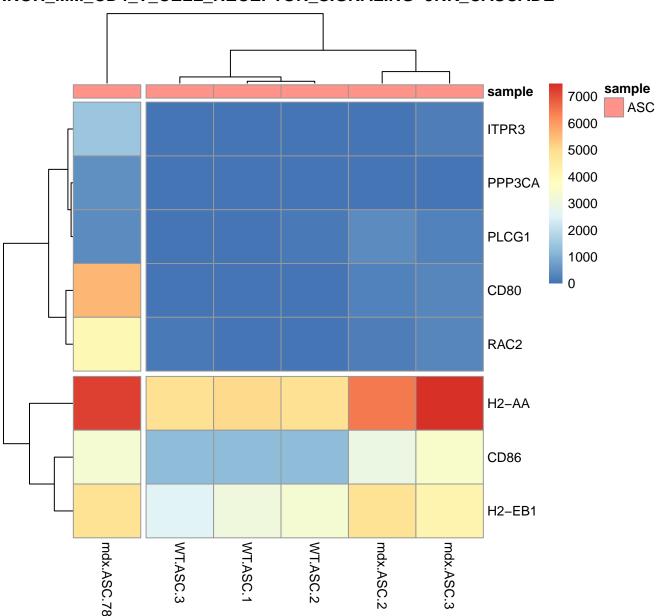
Expressed Matrix for genes active in INOH\_MM\_BMP2\_SIGNALING\_TGF-BETA\_MV



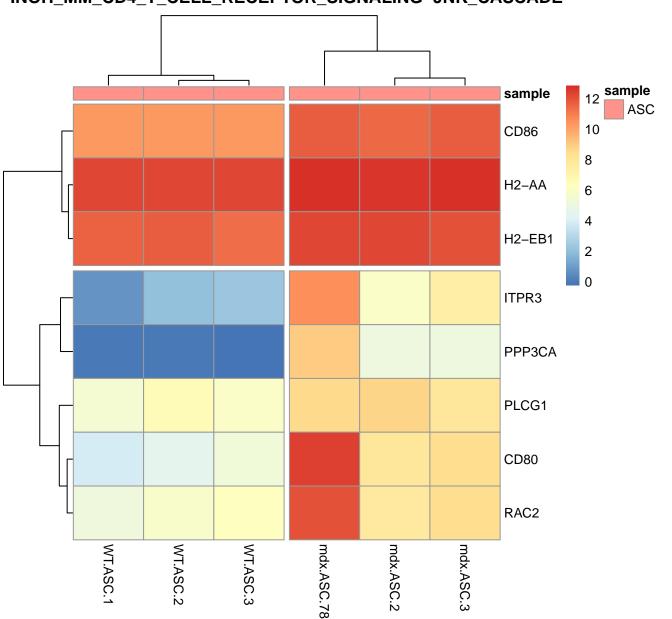
Scalling expressed matrix for genes active in INOH\_MM\_BMP2\_SIGNALING\_TGF-BETA\_MV



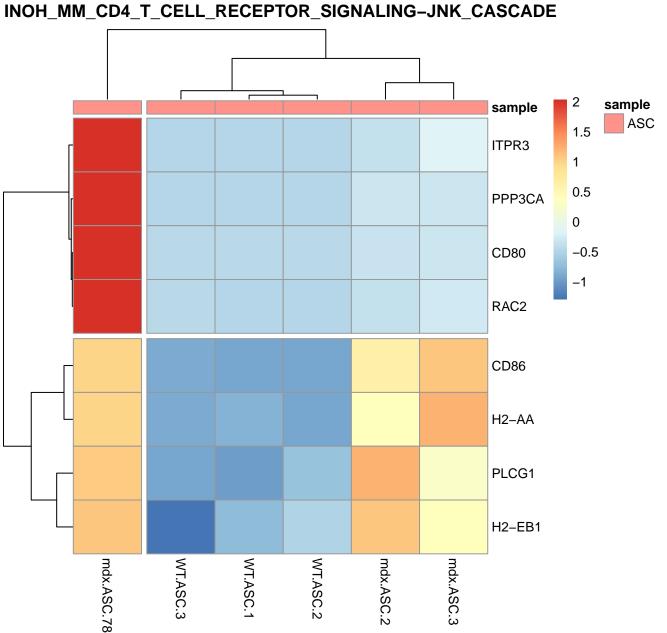
Expressed Matrix from Normalized for genes in INOH\_MM\_CD4\_T\_CELL\_RECEPTOR\_SIGNALING-JNK\_CASCADE



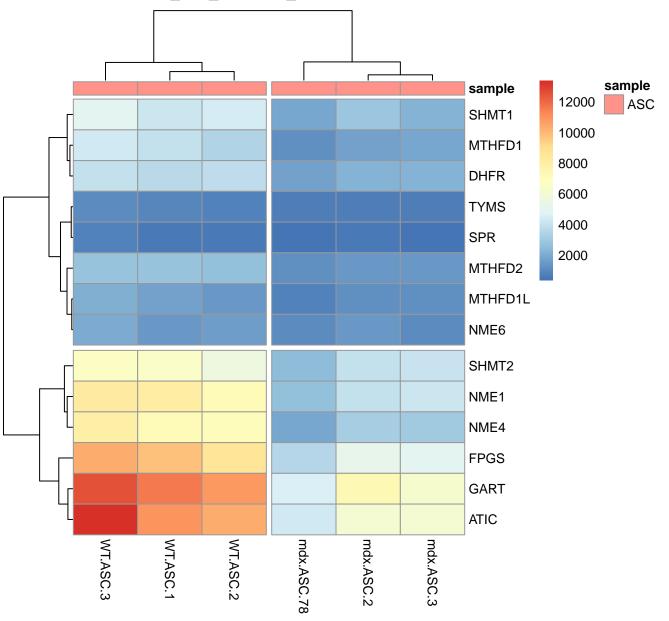
Expressed Matrix for genes active in INOH\_MM\_CD4\_T\_CELL\_RECEPTOR\_SIGNALING-JNK\_CASCADE



Scalling expressed matrix for genes active in

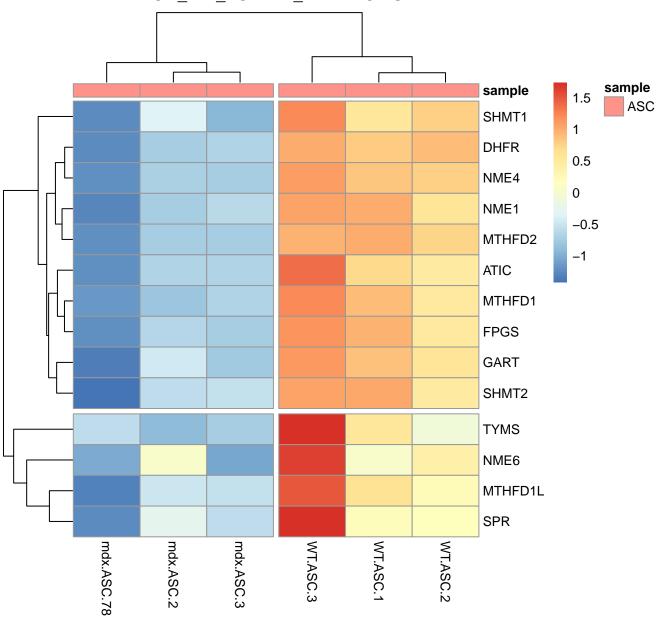


## Expressed Matrix from Normalized for genes in INOH\_MM\_FOLATE\_METABOLISM

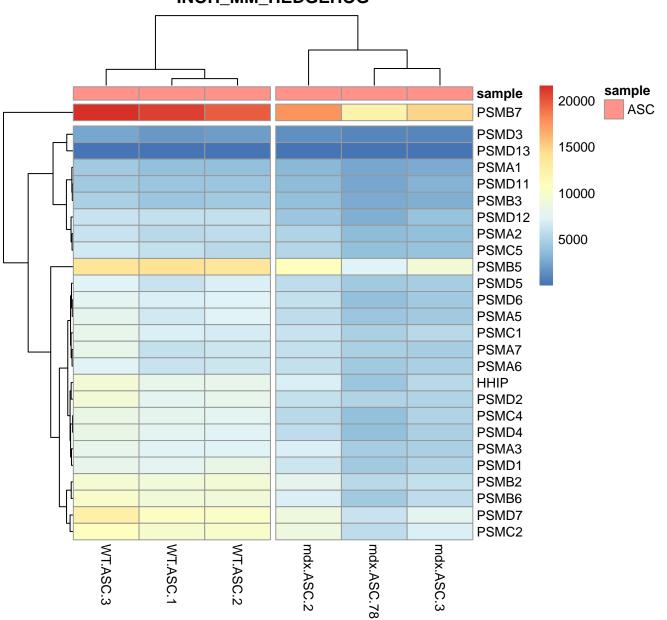


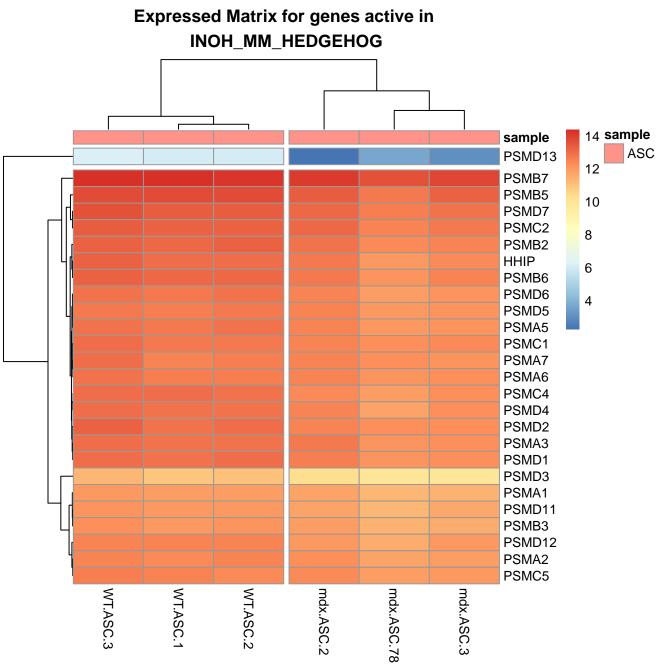
**Expressed Matrix for genes active in** INOH\_MM\_FOLATE\_METABOLISM sample sample ASC 13 NME4 SHMT2 12 NME1 11 **FPGS** 10 **GART** 9 **ATIC TYMS** SPR MTHFD1L NME6 SHMT1 **DHFR** MTHFD1 MTHFD2 WT.ASC.3 WT.ASC.2 mdx.ASC.78 mdx.ASC.2 mdx.ASC.3

# Scalling expressed matrix for genes active in INOH\_MM\_FOLATE\_METABOLISM

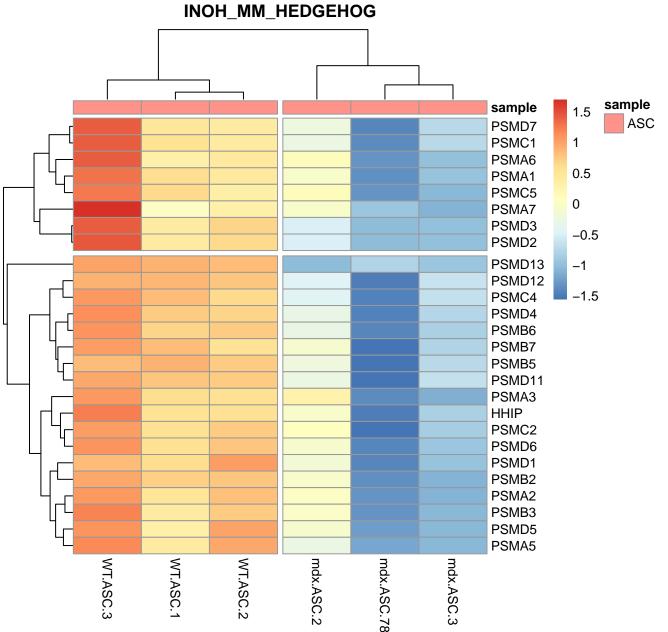


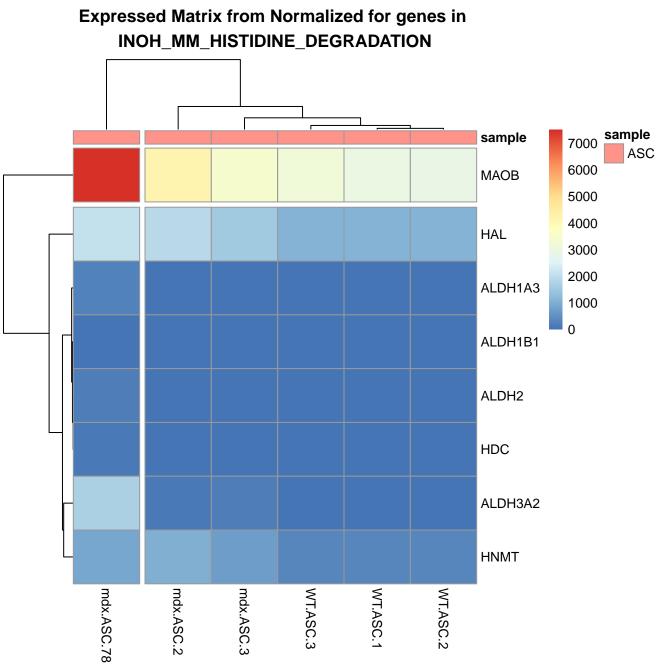
## Expressed Matrix from Normalized for genes in INOH\_MM\_HEDGEHOG





#### Scalling expressed matrix for genes active in

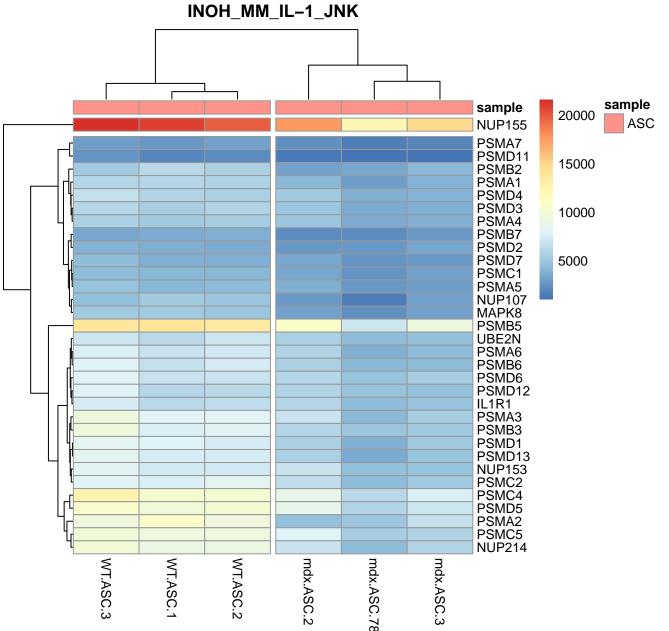




**Expressed Matrix for genes active in** INOH\_MM\_HISTIDINE\_DEGRADATION 12 sample sample ASC 10 **HNMT** 8 HAL 6 4 MAOB 2 ALDH3A2 ALDH2 HDC ALDH1A3 ALDH1B1 WT.ASC.3 mdx.ASC.78 WT.ASC.2 WT.ASC.1 mdx.ASC.2 mdx.ASC.3

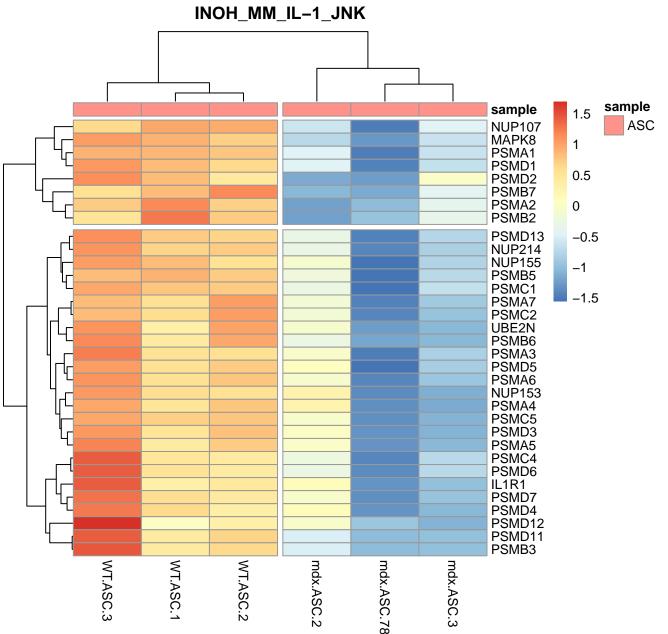
#### Scalling expressed matrix for genes active in INOH\_MM\_HISTIDINE\_DEGRADATION 2 sample sample ASC 1.5 MAOB 1 0.5 ALDH1A3 0 ALDH2 -0.5-1 ALDH3A2 HDC ALDH1B1 HAL **HNMT** WT.ASC.1 WT.ASC.2 WT.ASC.3 mdx.ASC.3 mdx.ASC.78 mdx.ASC.2

#### **Expressed Matrix from Normalized for genes in**

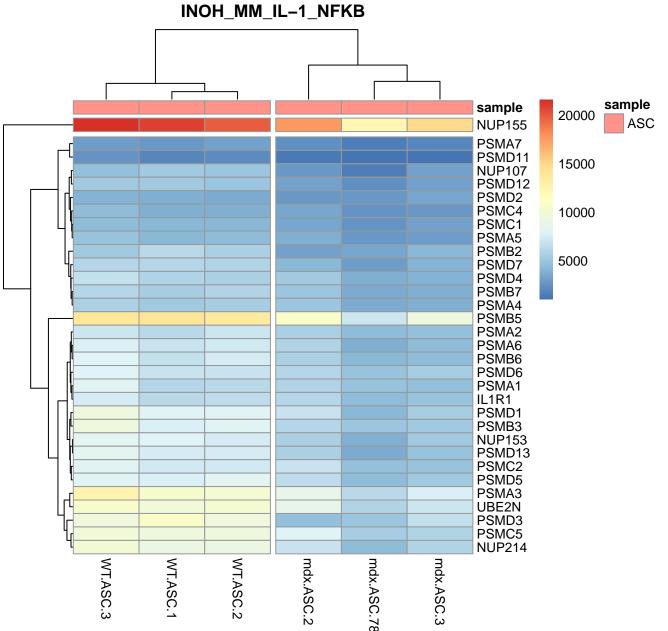


**Expressed Matrix for genes active in** INOH\_MM\_IL-1\_JNK sample sample 14 ASC PSMD11 PSMA7 PSMB7 PSMD2 13 PSMD7 PSMC1 PSMA5 12 **NUP107** MAPK8 PSMB2 11 PSMA1 PSMD4 PSMD3 PSMA4 PSMA6 UBE2N PSMB6 PSMD6 PSMD12 IL1R1 PSMD1 PSMD13 PSMB3 **NUP153** PSMC2 PSMA2 PSMC5 PSMA3 **NUP214 NUP155** PSMB5 PSMC4 PSMD5 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.78 mdx.ASC.2 mdx.ASC.3

#### Scalling expressed matrix for genes active in

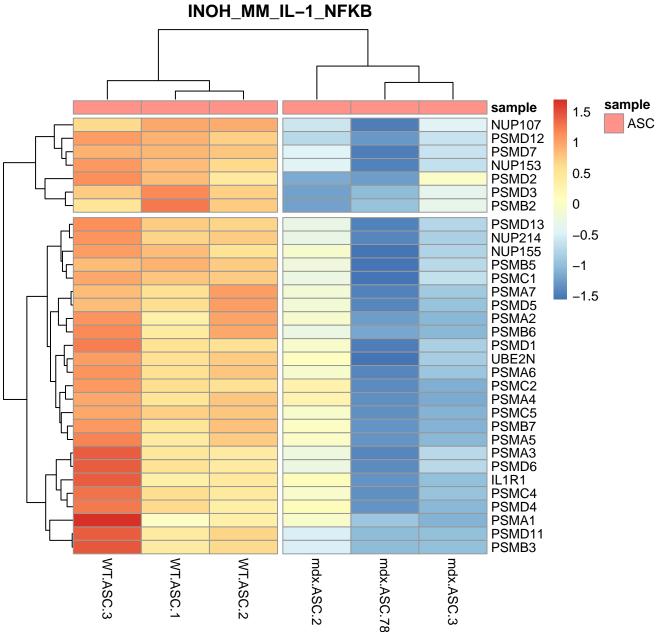


#### **Expressed Matrix from Normalized for genes in**

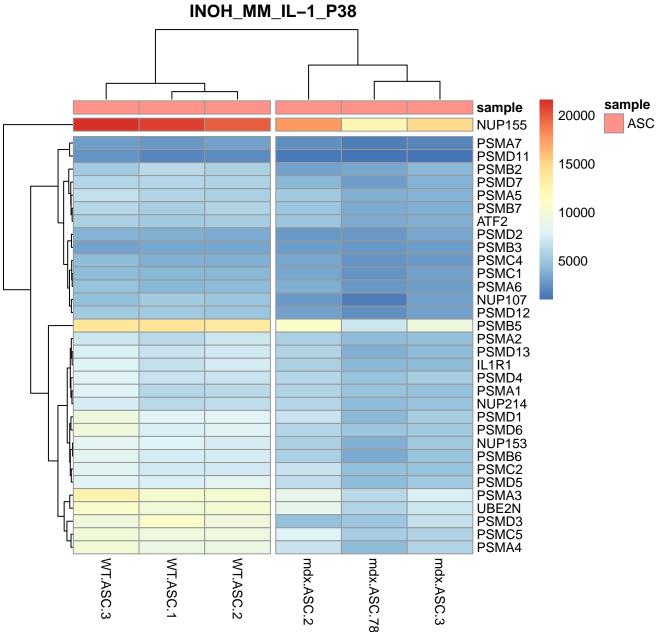


#### **Expressed Matrix for genes active in** INOH\_MM\_IL-1\_NFKB sample sample 14 ASC **NUP155** PSMB5 PSMA3 13 UBE2N PSMA6 PSMA2 PSMB6 12 PSMD6 PSMA1 IL1R1 11 **NUP153** PSMD13 PSMB3 PSMC2 PSMD5 PSMD3 PSMC5 PSMD1 **NUP214** PSMA7 PSMD11 PSMB2 PSMD7 PSMD4 PSMB7 PSMA4 PSMD2 PSMC4 PSMC1 PSMA5 **NUP107** PSMD12 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.78 mdx.ASC.2 mdx.ASC.3

#### Scalling expressed matrix for genes active in

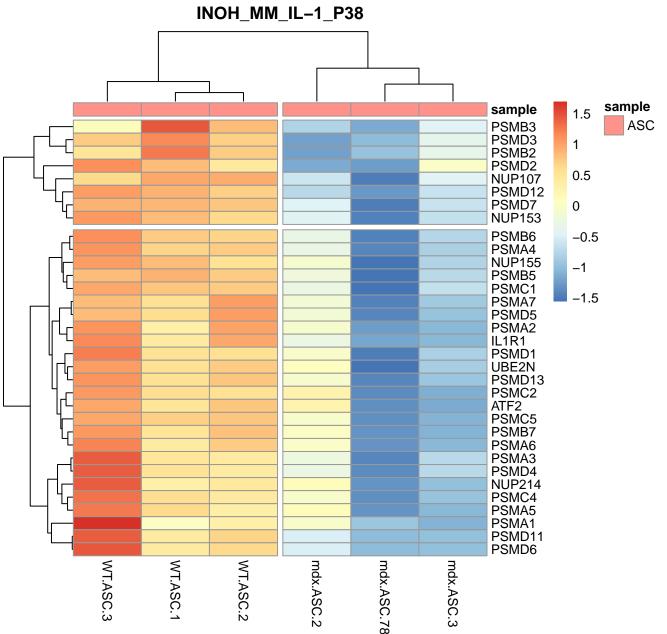


#### **Expressed Matrix from Normalized for genes in**

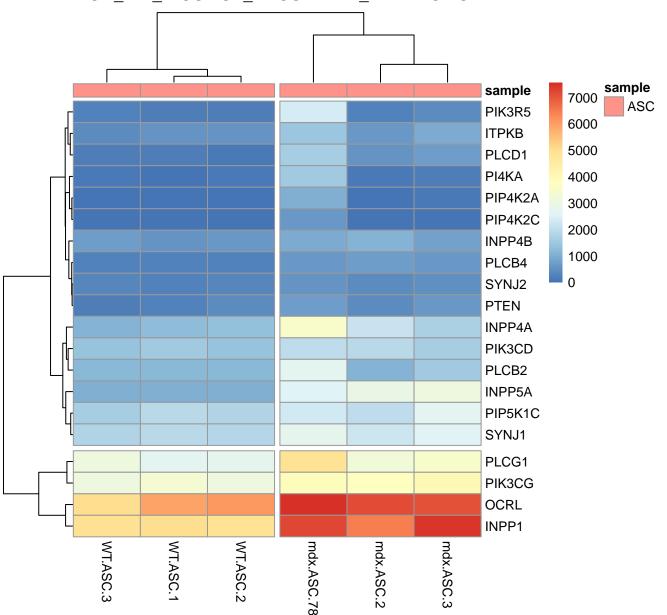


**Expressed Matrix for genes active in** INOH\_MM\_IL-1\_P38 sample sample 14 ASC **NUP155** PSMB5 PSMA3 UBE2N 13 PSMD13 PSMA2 IL1R1 12 PSMD4 PSMA1 **NUP214** 11 **NUP153** PSMB6 PSMD6 PSMC2 PSMD5 PSMD3 PSMC5 PSMD1 PSMA4 PSMA7 PSMD11 PSMB2 PSMD7 PSMA5 PSMB7 ATF2 NUP107 PSMD12 PSMC4 PSMC1 PSMA6 PSMD2 PSMB3 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.78 mdx.ASC.2 mdx.ASC.3

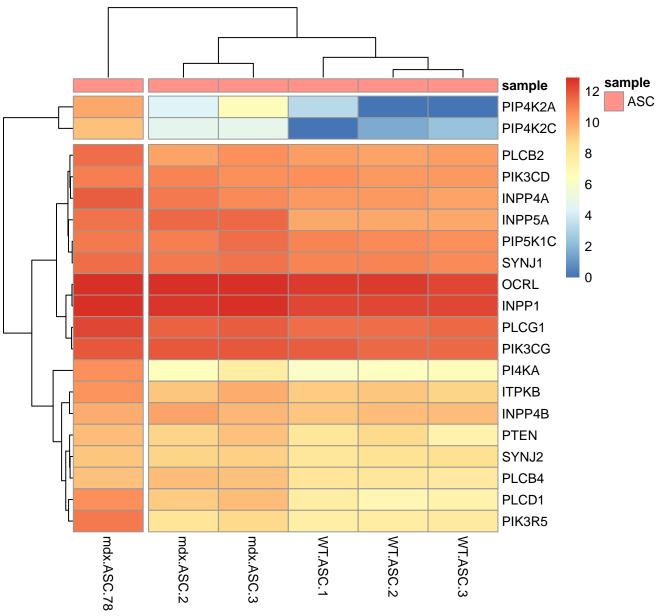
#### Scalling expressed matrix for genes active in



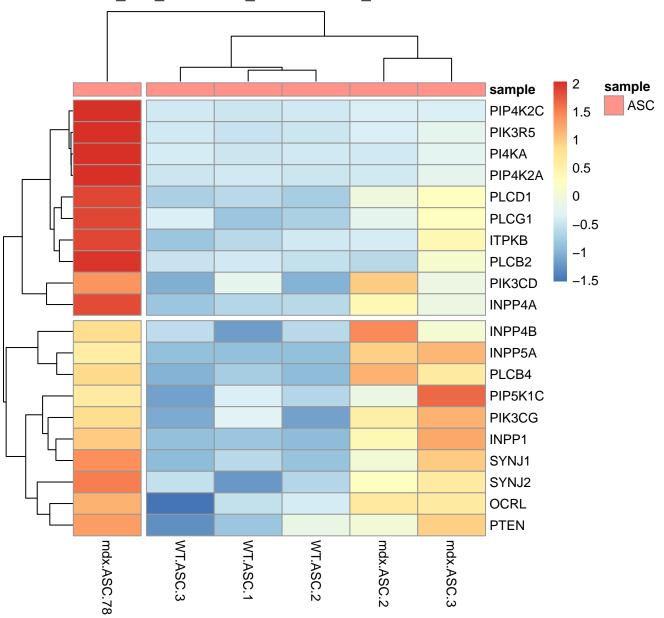
### **Expressed Matrix from Normalized for genes in INOH\_MM\_INOSITOL\_PHOSPHATE\_METABOLISM**



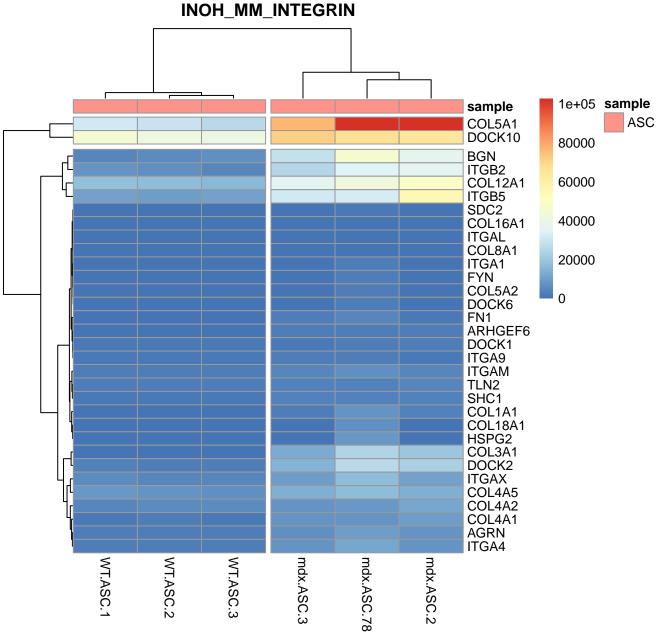
# Expressed Matrix for genes active in INOH\_MM\_INOSITOL\_PHOSPHATE\_METABOLISM

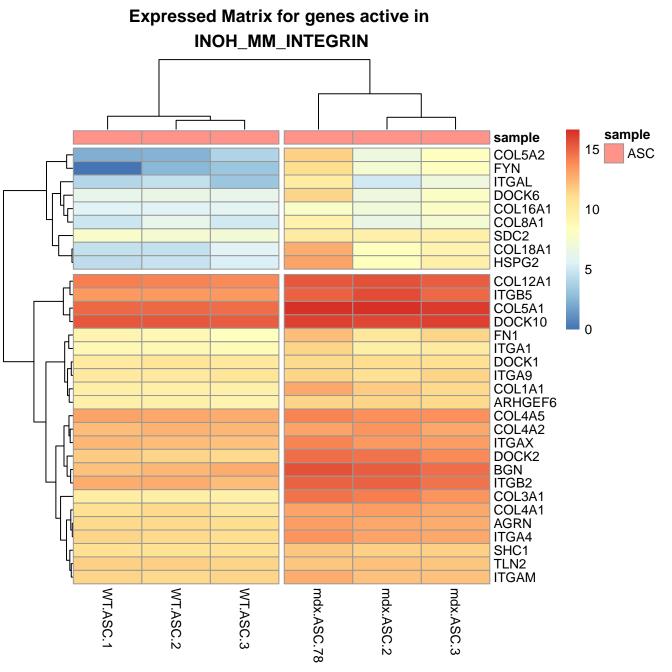


## Scalling expressed matrix for genes active in INOH\_MM\_INOSITOL\_PHOSPHATE\_METABOLISM



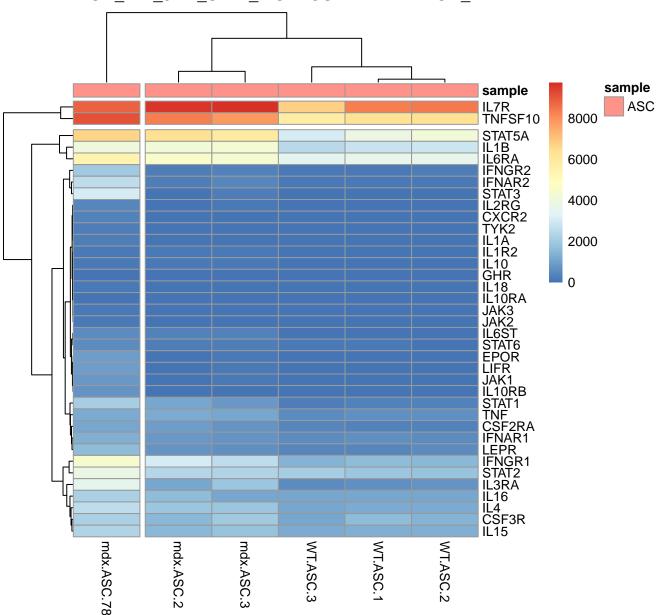
#### Expressed Matrix from Normalized for genes in



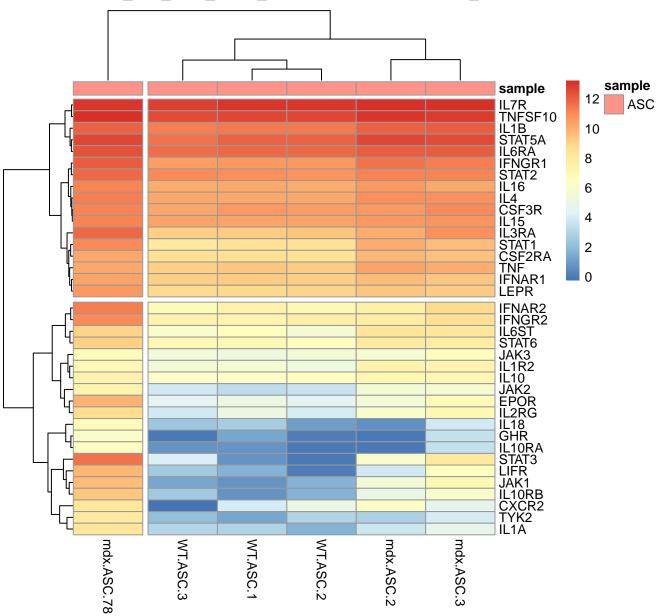


Scalling expressed matrix for genes active in INOH\_MM\_INTEGRIN 2 sample sample ASC **ITGAL** 1.5 DOCK6 COL18A1 COL5A2 1 HSPG2 ITGA1 0.5 FYN COL8A1 0 FN1 COL1A1 -0.5SDC2 ITGA4 **ITGAM** -1 **ITGAX** COL16A1 ITGA9 DOCK10 SHC1 COL4A5 ITGB5 COL4A2 DOCK1 COL3A1 DOCK2 **BGN AGRN** TLN2 COL4A1 ARHGEF6 COL12A1 COL5A1 ITGB2 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.78 mdx.ASC.2 mdx.ASC.3

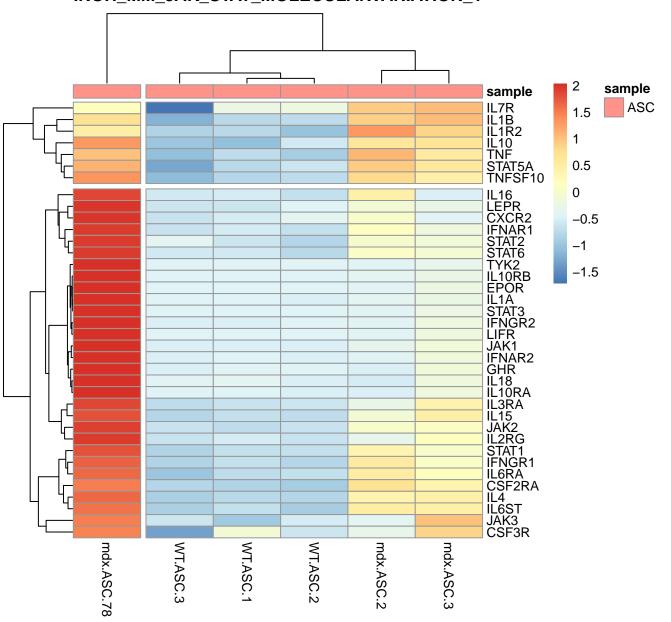
### **Expressed Matrix from Normalized for genes in INOH\_MM\_JAK\_STAT\_MOLECULARVARIATION\_1**



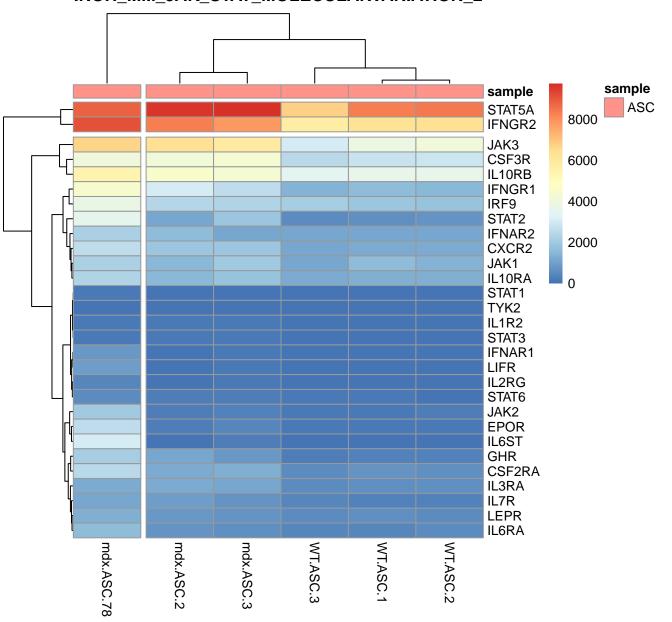
### Expressed Matrix for genes active in INOH\_MM\_JAK\_STAT\_MOLECULARVARIATION\_1



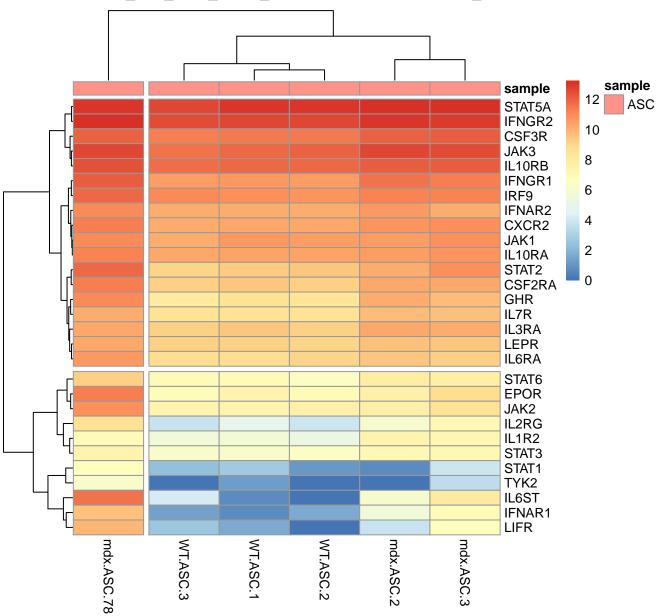
#### Scalling expressed matrix for genes active in INOH\_MM\_JAK\_STAT\_MOLECULARVARIATION\_1



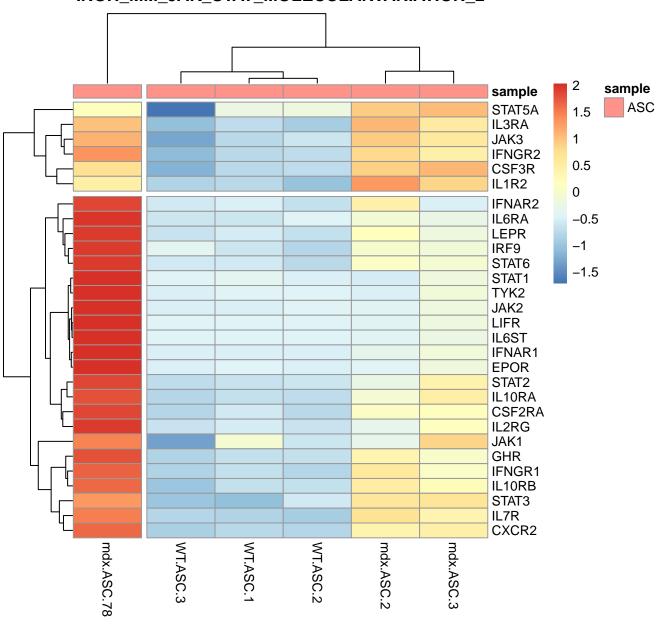
### Expressed Matrix from Normalized for genes in INOH\_MM\_JAK\_STAT\_MOLECULARVARIATION\_2



### Expressed Matrix for genes active in INOH\_MM\_JAK\_STAT\_MOLECULARVARIATION\_2

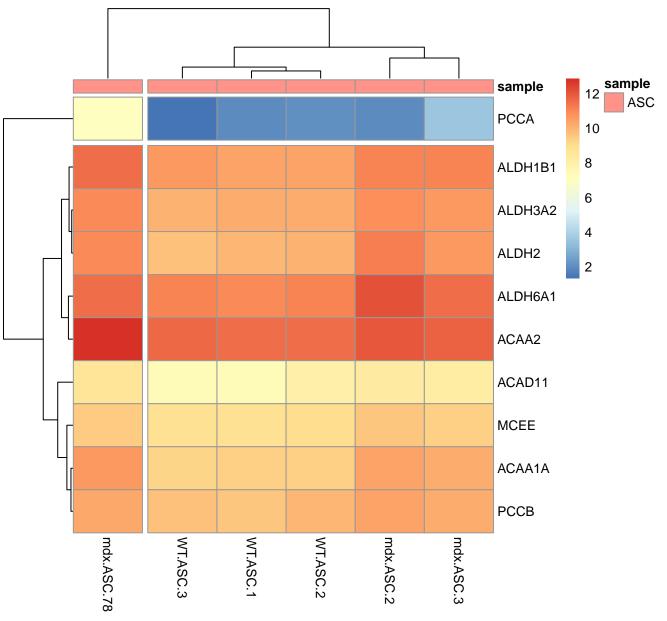


### Scalling expressed matrix for genes active in INOH\_MM\_JAK\_STAT\_MOLECULARVARIATION\_2



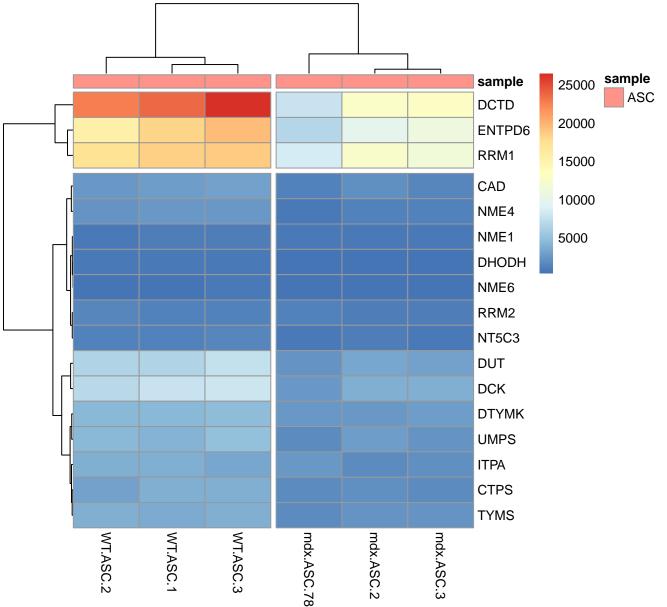
#### **Expressed Matrix from Normalized for genes in** INOH\_MM\_PROPANOATE\_METABOLISM sample sample 7000 ASC **PCCA** 6000 5000 ACAD11 4000 3000 **MCEE** 2000 ACAA1A 1000 **PCCB** ACAA2 ALDH6A1 ALDH1B1 ALDH3A2 ALDH2 WT.ASC.1 WT.ASC.2 mdx.ASC.78 mdx.ASC.2 mdx.ASC.3

# Expressed Matrix for genes active in INOH\_MM\_PROPANOATE\_METABOLISM

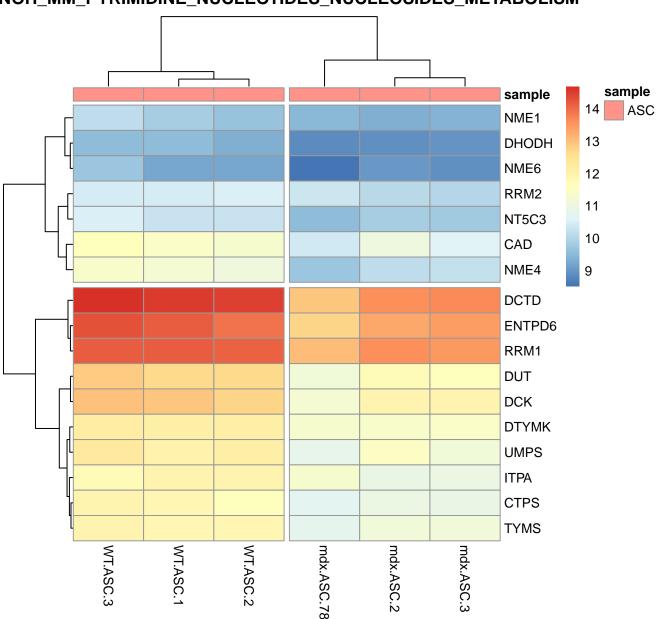


Scalling expressed matrix for genes active in INOH\_MM\_PROPANOATE\_METABOLISM 2 sample sample ASC 1.5 ALDH6A1 1 ALDH3A2 0.5 ACAA1A 0 -0.5ALDH2 -1 **PCCB MCEE PCCA** ACAA2 ACAD11 ALDH1B1 WT.ASC.2 WT.ASC.1 WT.ASC.3 mdx.ASC.78 mdx.ASC.2 mdx.ASC.3

## Expressed Matrix from Normalized for genes in OH\_MM\_PYRIMIDINE\_NUCLEOTIDES\_NUCLEOSIDES\_METABOLISM

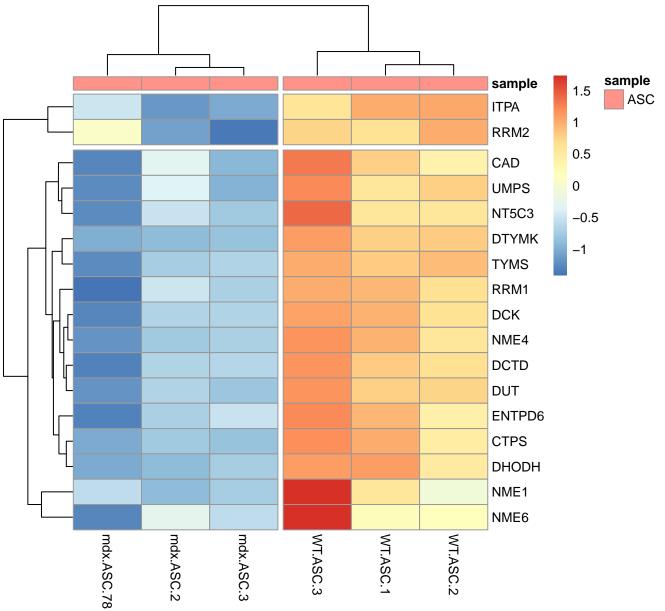


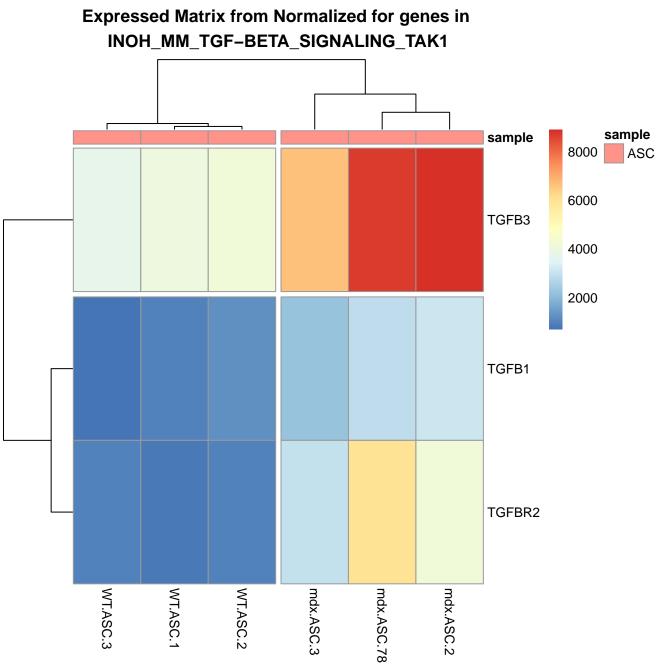
### Expressed Matrix for genes active in NOH\_MM\_PYRIMIDINE\_NUCLEOTIDES\_NUCLEOSIDES\_METABOLISM



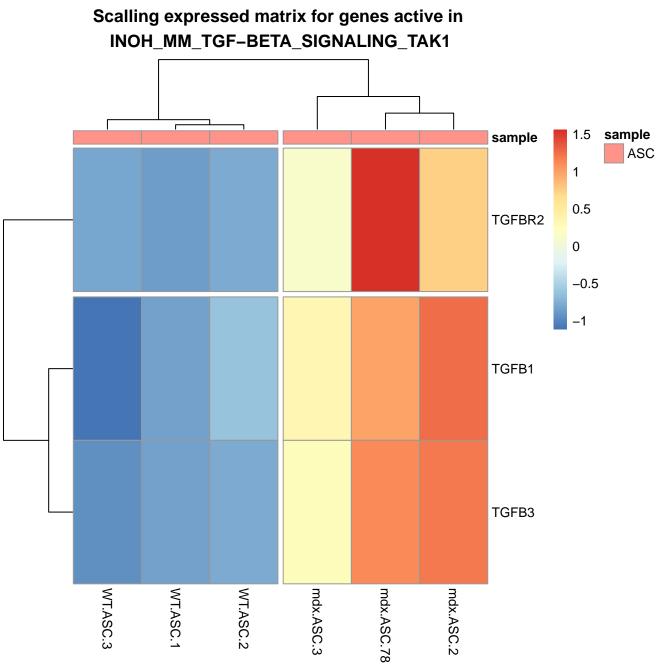
### NOH\_MM\_PYRIMIDINE\_NUCLEOTIDES\_NUCLEOSIDES\_METABOLISM

Scalling expressed matrix for genes active in

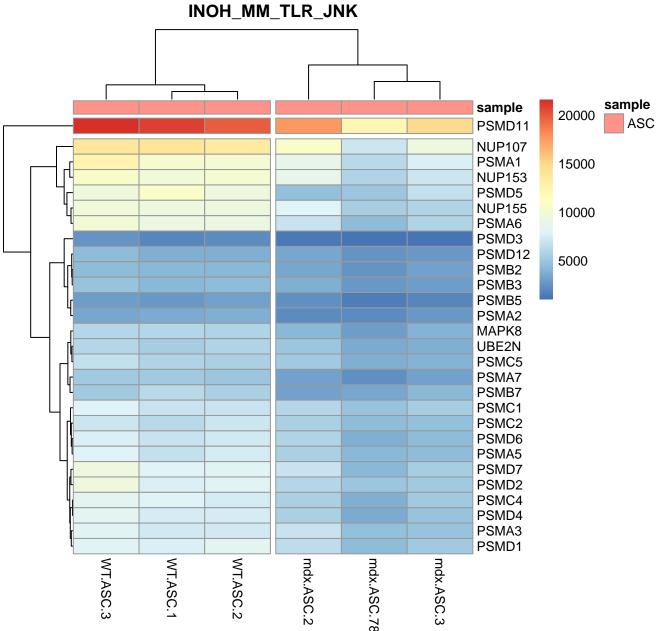




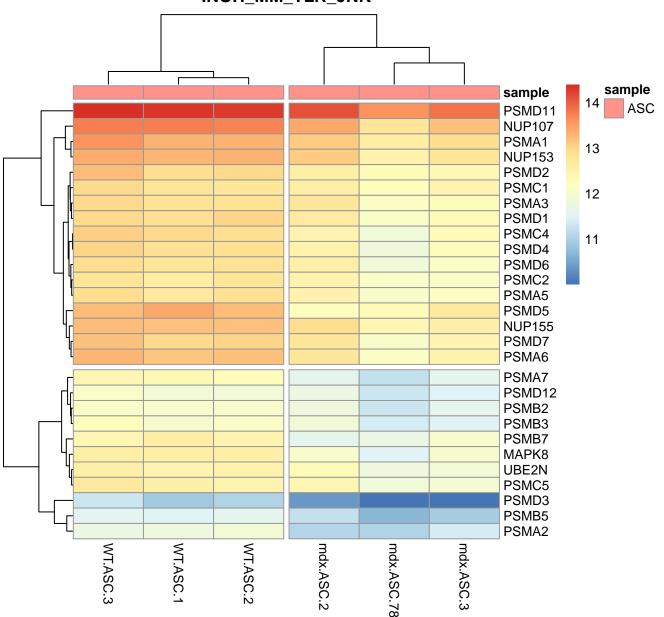
**Expressed Matrix for genes active in** INOH\_MM\_TGF-BETA\_SIGNALING\_TAK1 sample sample 13 ASC 12.5 12 11.5 TGFB3 11 10.5 10 9.5 TGFB1 TGFBR2 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.3 mdx.ASC.78 mdx.ASC.2



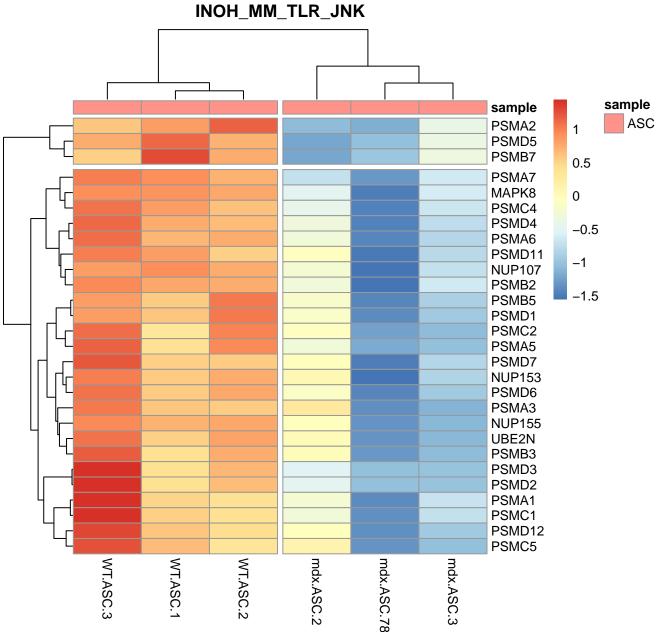
#### Expressed Matrix from Normalized for genes in



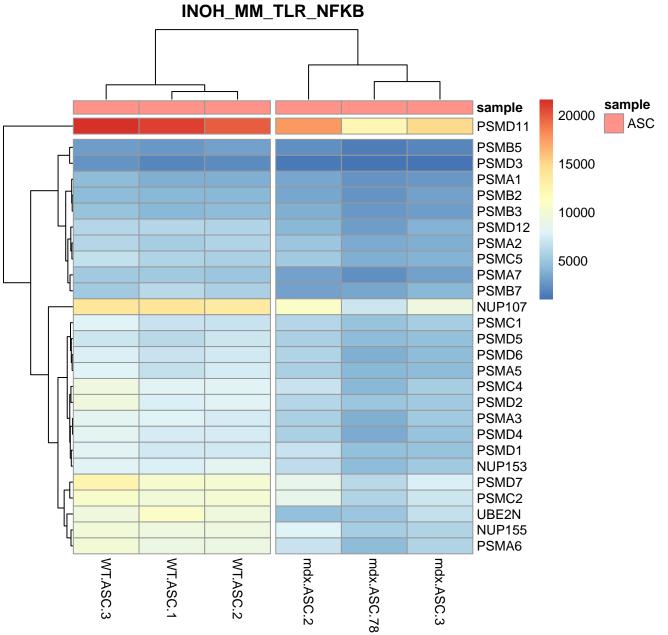
## Expressed Matrix for genes active in INOH\_MM\_TLR\_JNK



#### Scalling expressed matrix for genes active in

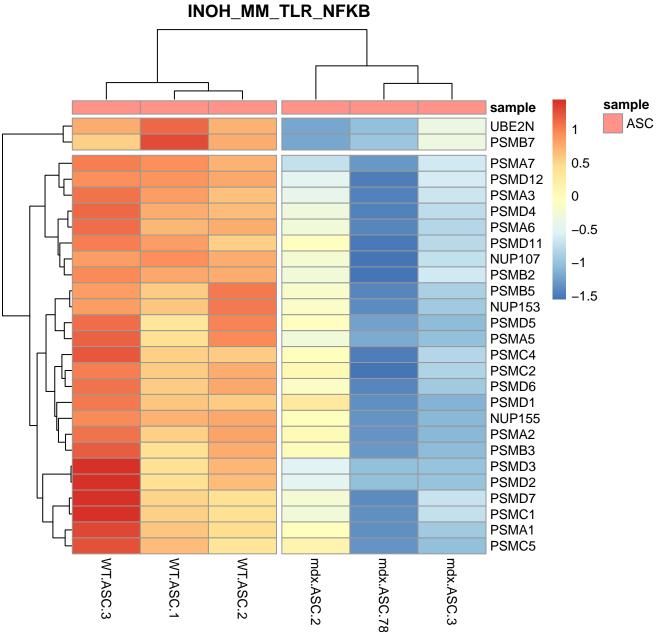


### Expressed Matrix from Normalized for genes in

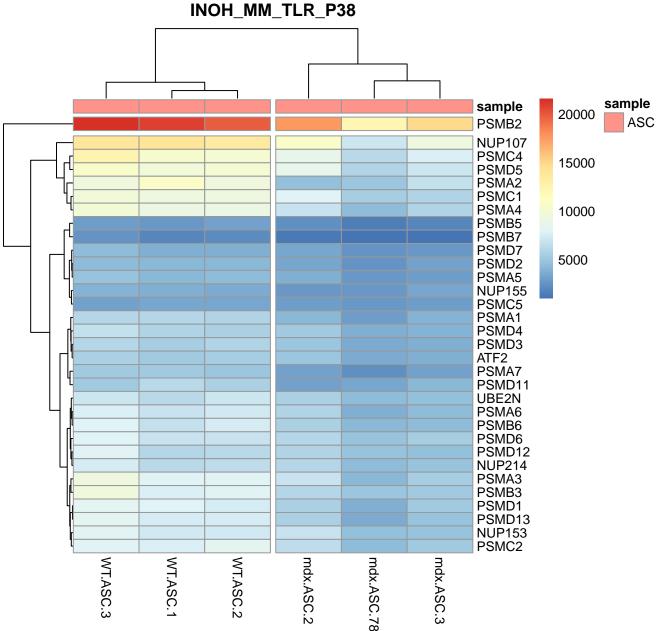


**Expressed Matrix for genes active in** INOH\_MM\_TLR\_NFKB sample sample 14 ASC PSMD11 **NUP107** PSMD7 13 PSMC2 PSMD2 PSMC1 12 PSMD1 **NUP153** PSMA3 11 PSMD4 PSMD6 PSMD5 PSMA5 UBE2N **NUP155** PSMC4 PSMA6 PSMA7 PSMA1 PSMB2 PSMB3 PSMB7 PSMD12 PSMA2 PSMC5 PSMB5 PSMD3 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.2 mdx.ASC.78 mdx.ASC.3

#### Scalling expressed matrix for genes active in

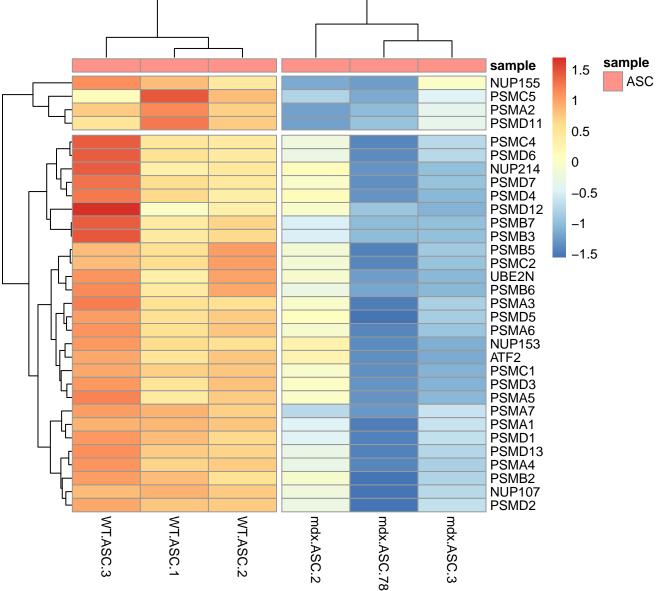


#### Expressed Matrix from Normalized for genes in

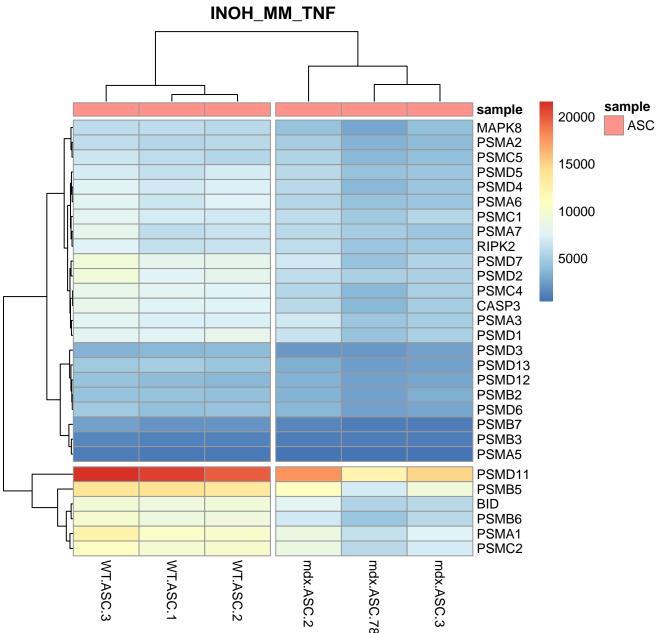


**Expressed Matrix for genes active in** INOH\_MM\_TLR\_P38 sample sample 14 ASC PSMB2 **NUP107** PSMC4 13 PSMD5 PSMA6 UBE2N PSMB6 12 PSMD6 PSMD12 **NUP214** 11 PSMD1 PSMD13 PSMB3 **NUP153** PSMC2 PSMA2 PSMC1 PSMA3 PSMA4 PSMB5 PSMB7 PSMD11 PSMA1 PSMD4 PSMD3 ATF2 **NUP155** PSMC5 PSMA7 PSMD7 PSMD2 PSMA5 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.3 mdx.ASC.2 mdx.ASC.78

Scalling expressed matrix for genes active in INOH\_MM\_TLR\_P38 sample sample 1.5 ASC **NUP155** PSMC5 1 PSMA2 PSMD11 0.5 PSMC4 PSMD6 0 **NUP214** PSMD7 -0.5PSMD4 PSMD12 PSMB7 -1 PSMB3 PSMB5 -1.5PSMC2 UBE2N PSMB6 PSMA3 PSMD5 PSMA6 **NUP153** ATF2 PSMC1 PSMD3 PSMA5 PSMA7

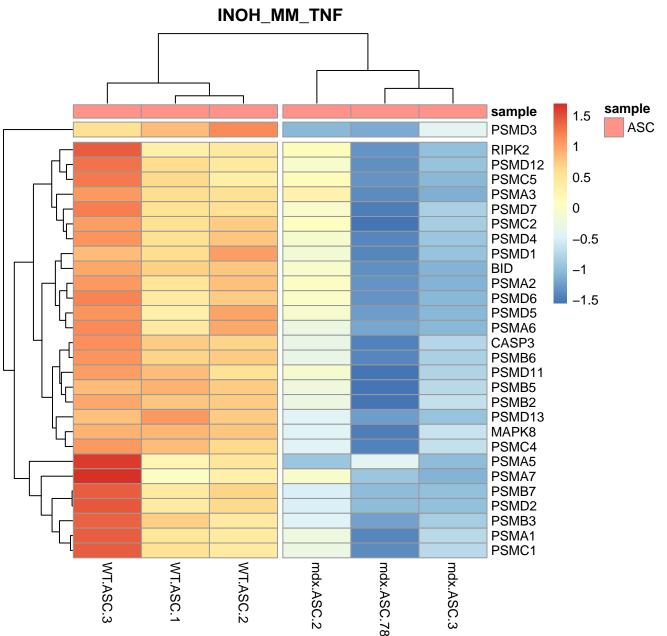


#### **Expressed Matrix from Normalized for genes in**

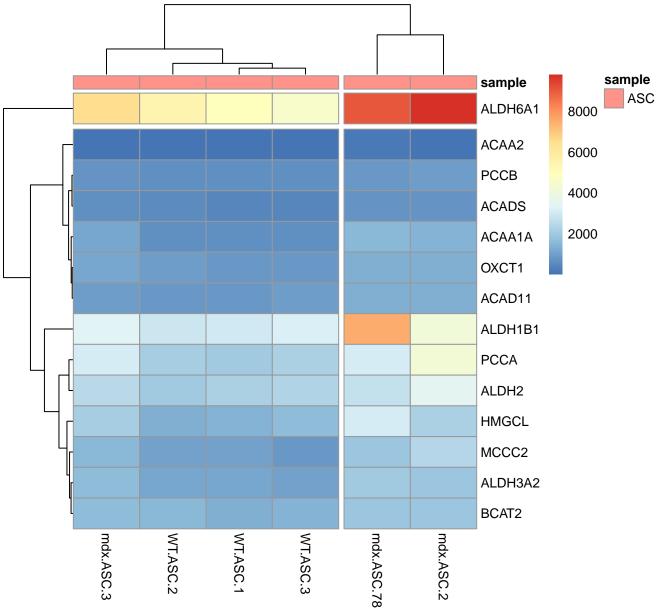


**Expressed Matrix for genes active in** INOH\_MM\_TNF sample sample 14 ASC PSMA5 PSMB7 13 PSMB3 PSMD11 12 PSMB5 PSMA1 11 PSMC2 PSMD3 PSMD13 10 PSMD12 PSMB2 9 PSMD6 MAPK8 PSMA2 PSMC5 BID PSMD7 PSMB6 PSMD4 PSMD5 PSMA6 PSMC1 PSMA7 RIPK2 PSMC4 CASP3 PSMD2 PSMA3 PSMD1 WT.ASC.3 WT.ASC.1 WT.ASC.2 mdx.ASC.2 mdx.ASC.3 mdx.ASC.78

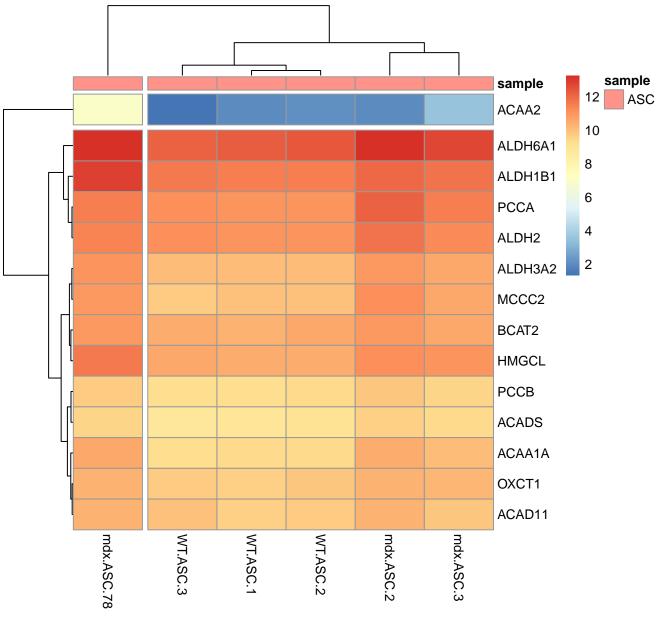
#### Scalling expressed matrix for genes active in



Expressed Matrix from Normalized for genes in INOH\_MM\_VALINE\_LEUCINE\_ISOLEUCINE\_DEGRADATION



## Expressed Matrix for genes active in INOH\_MM\_VALINE\_LEUCINE\_ISOLEUCINE\_DEGRADATION



Scalling expressed matrix for genes active in INOH\_MM\_VALINE\_LEUCINE\_ISOLEUCINE\_DEGRADATION

