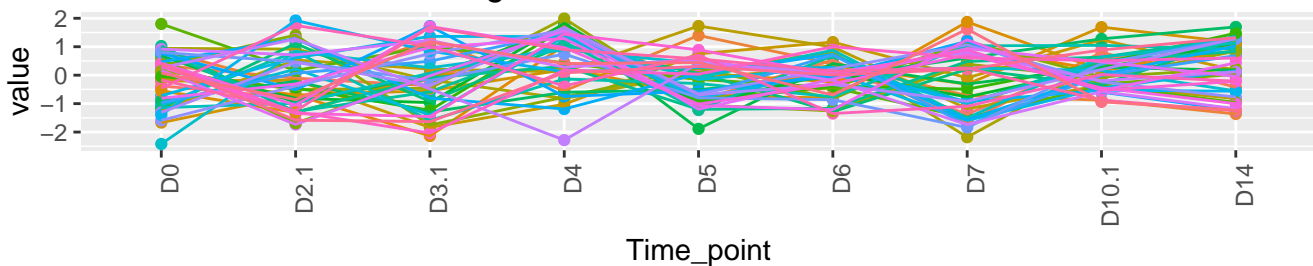
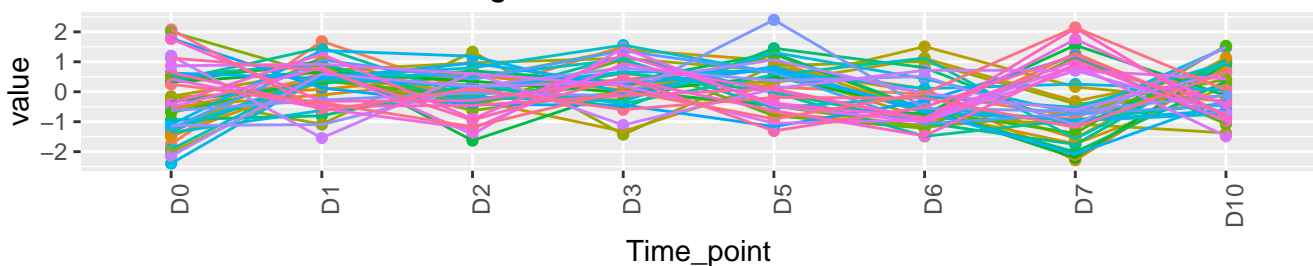


Pathways in cancer.Abl1-1;77

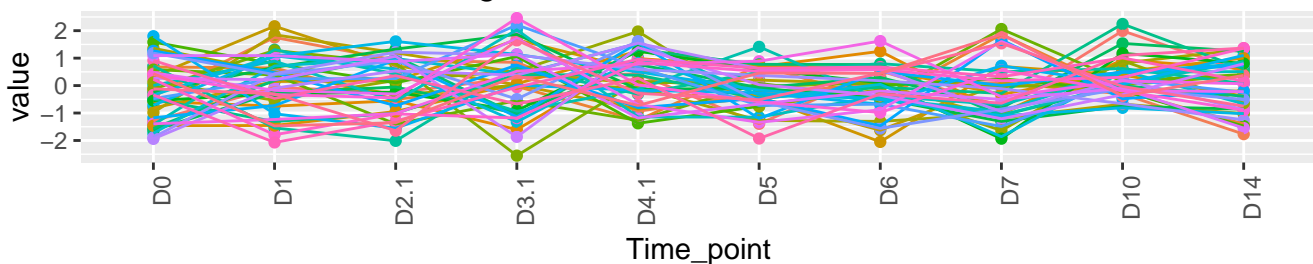
43 genes – EC\_WT-standardized



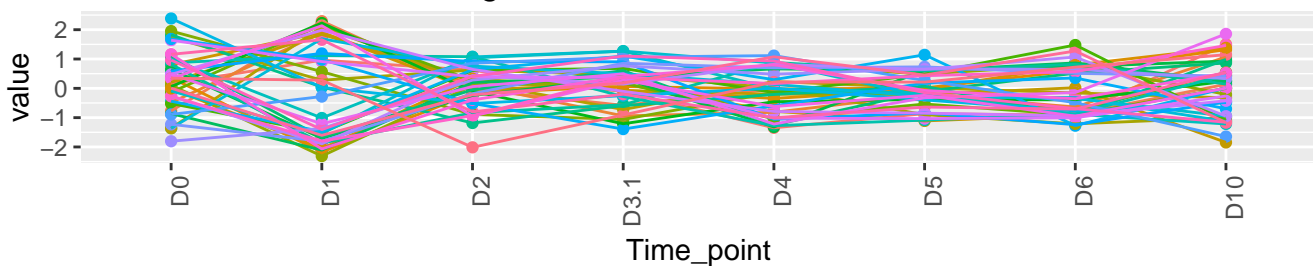
41 genes – EC\_KO-standardized



41 genes – FAP\_WT-standardized

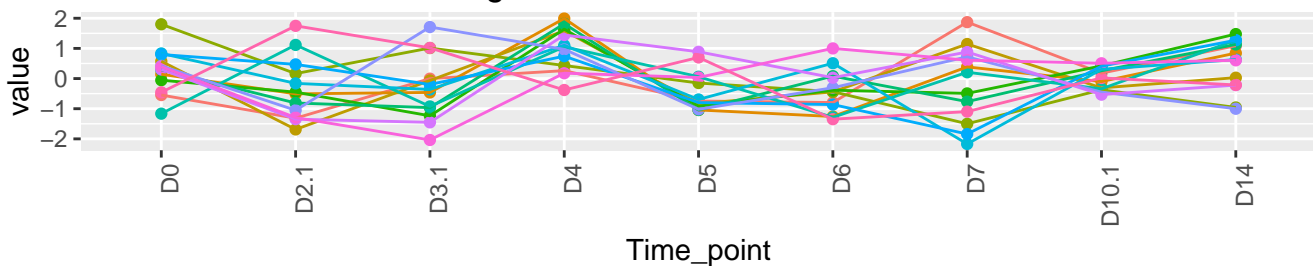


41 genes – FAP\_KO-standardized

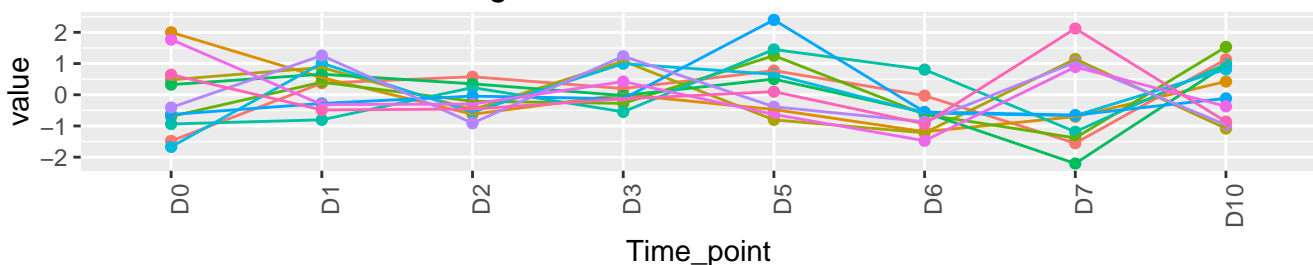


# Renal cell carcinoma.Met-17;23

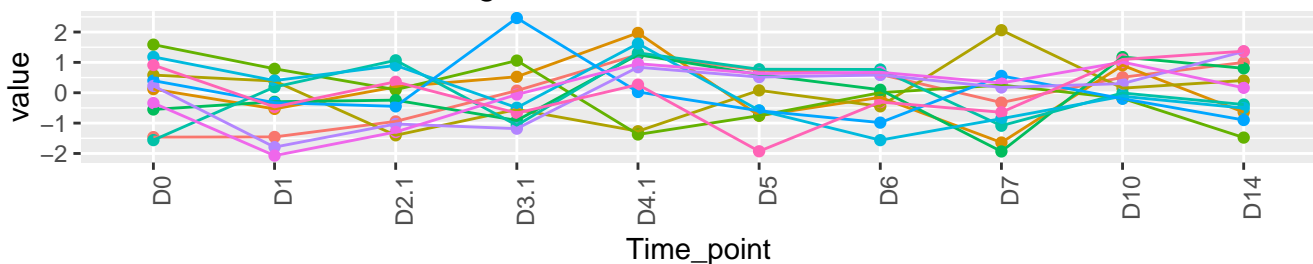
## 13 genes – EC\_WT-standardized



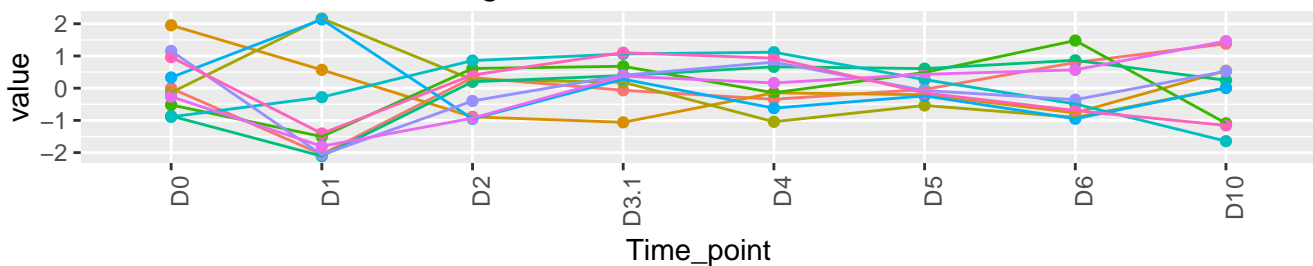
## 11 genes – EC\_KO-standardized



## 11 genes – FAP\_WT-standardized

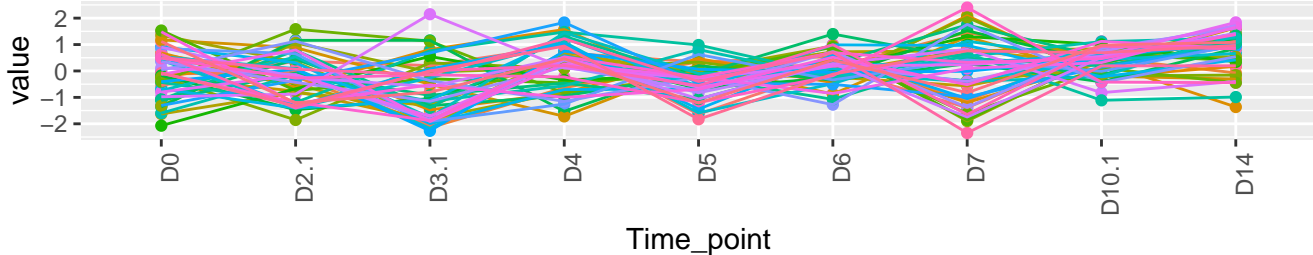


## 10 genes – FAP\_KO-standardized

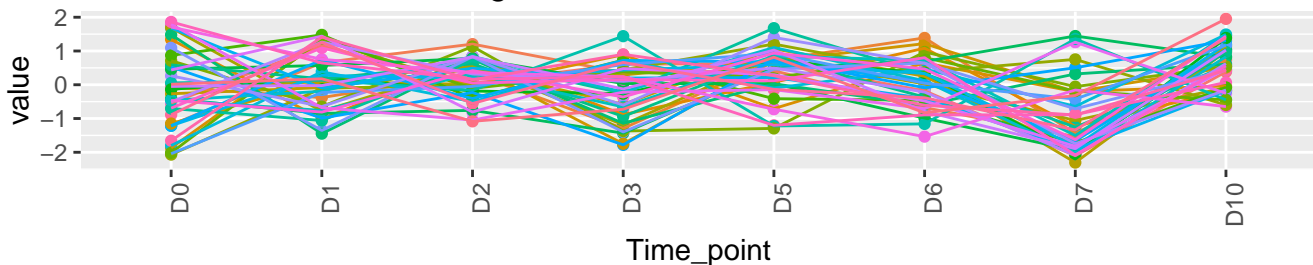


# Rap1 signaling pathway.Tln1-2;39

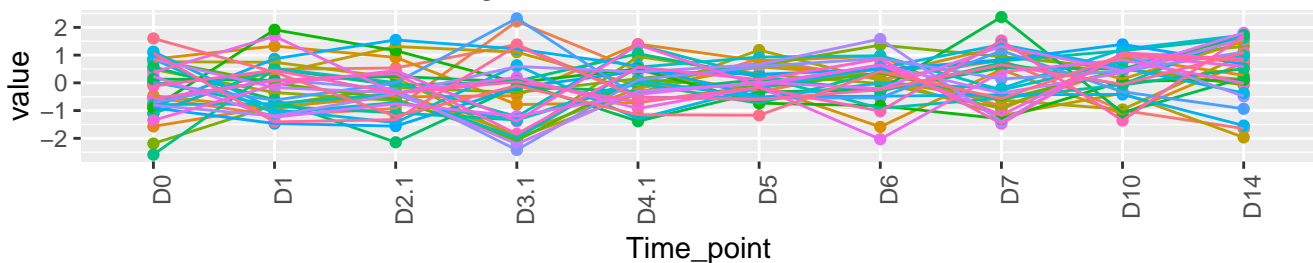
## 45 genes – EC\_WT-standardized



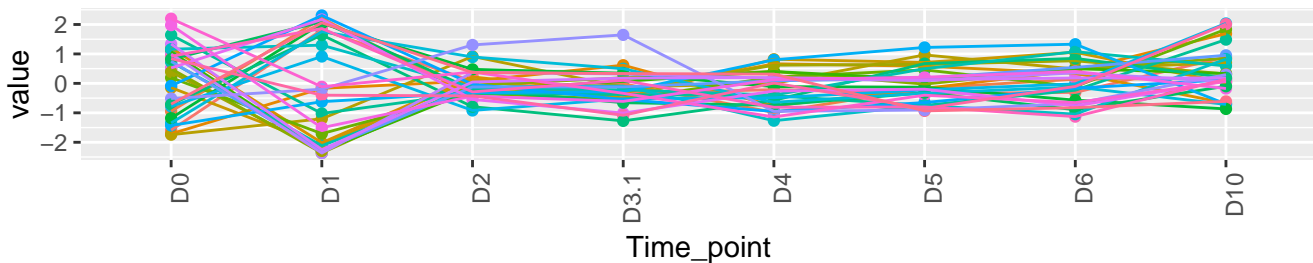
## 41 genes – EC\_KO-standardized



## 32 genes – FAP\_WT-standardized

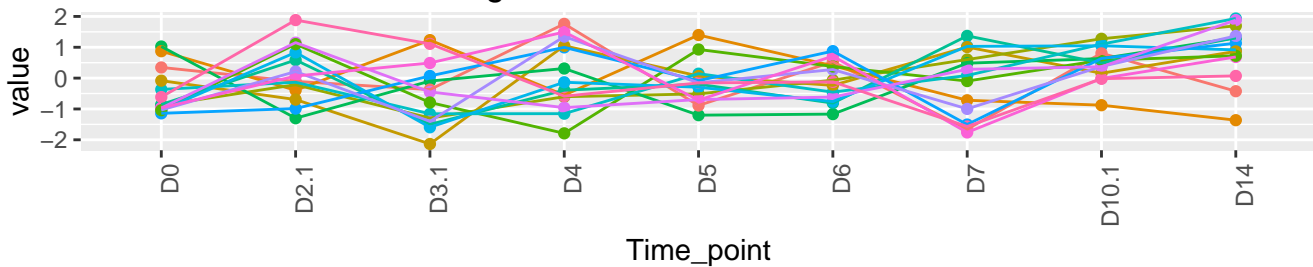


## 30 genes – FAP\_KO-standardized

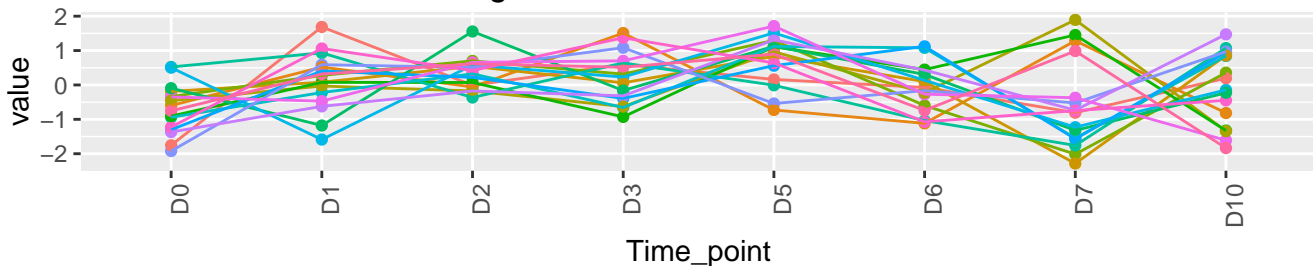


# Toll-like receptor signaling pathway.Map3k8-1;12

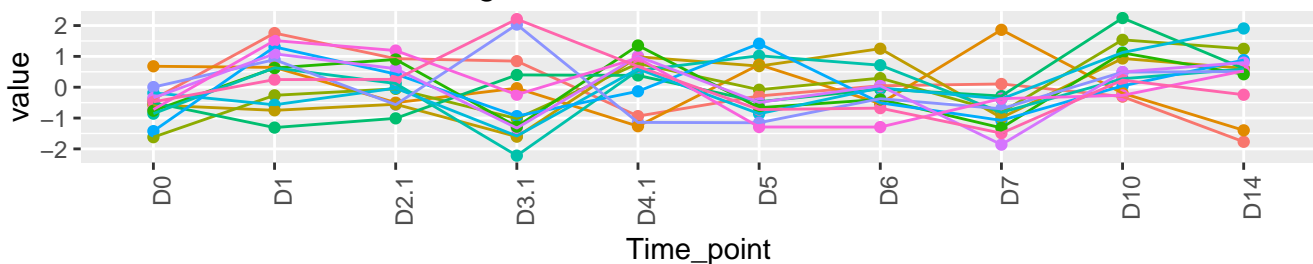
## 14 genes – EC\_WT-standardized



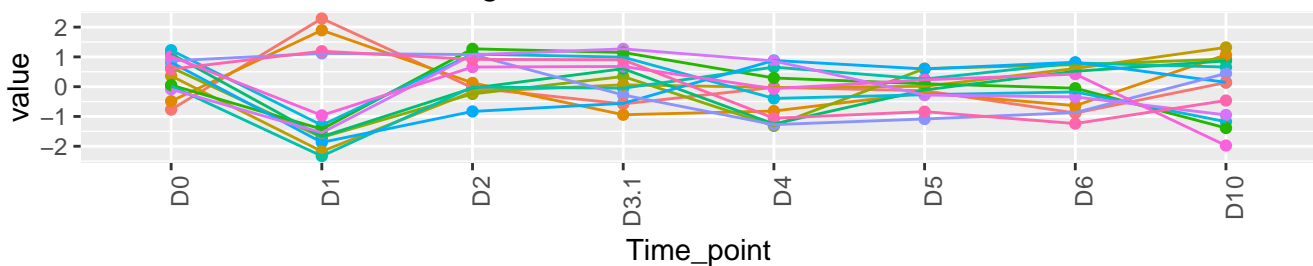
## 16 genes – EC\_KO-standardized



## 13 genes – FAP\_WT-standardized

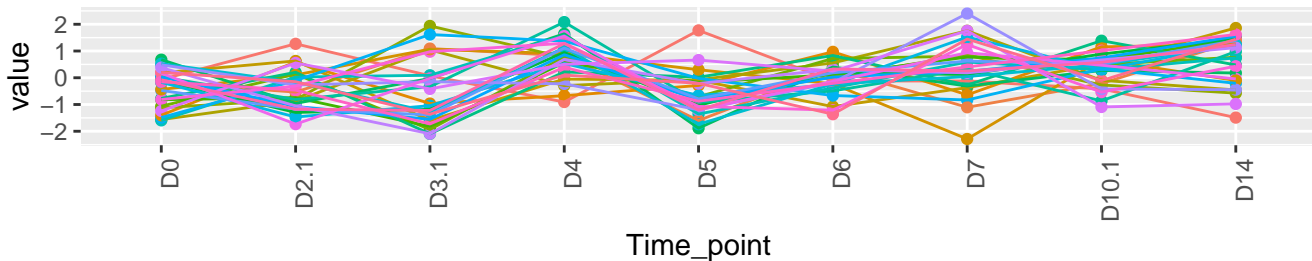


## 13 genes – FAP\_KO-standardized

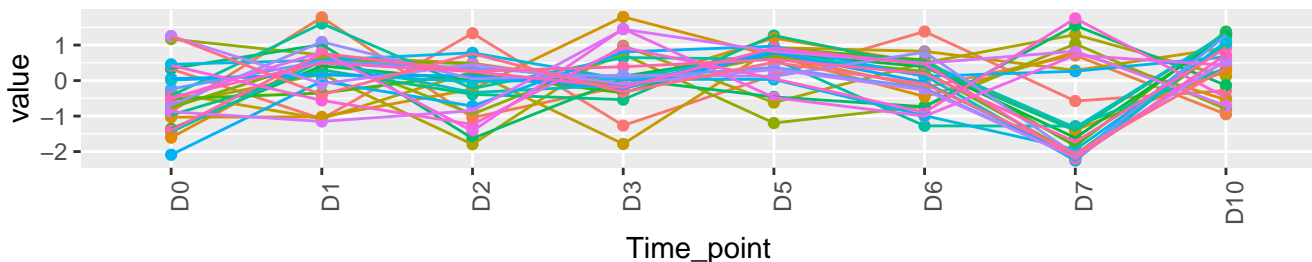


Adherens junction.ErbB2-1;11

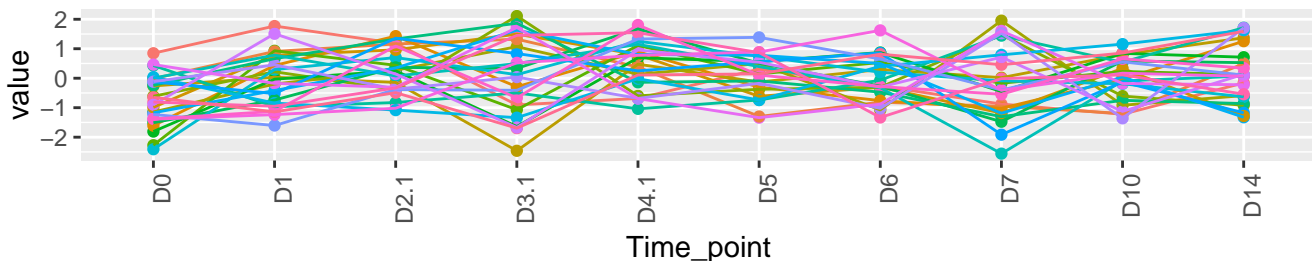
27 genes – EC\_WT-standardized



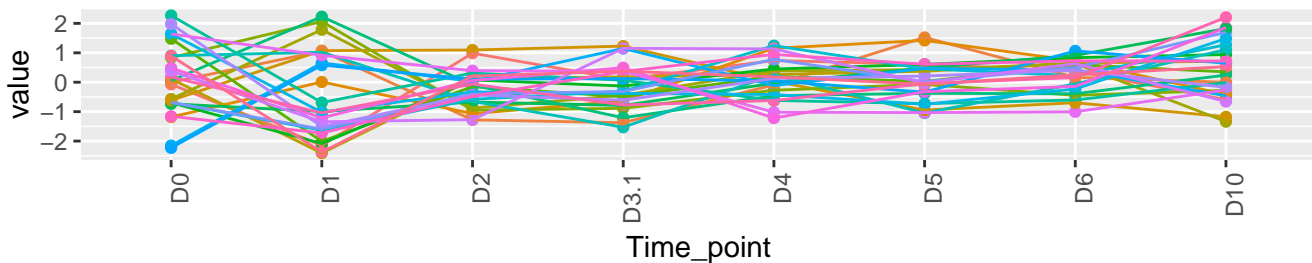
27 genes – EC\_KO-standardized



25 genes – FAP\_WT-standardized

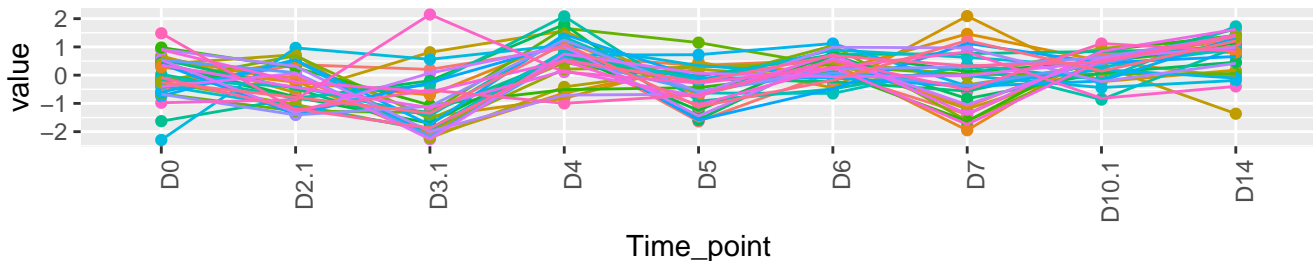


25 genes – FAP\_KO-standardized

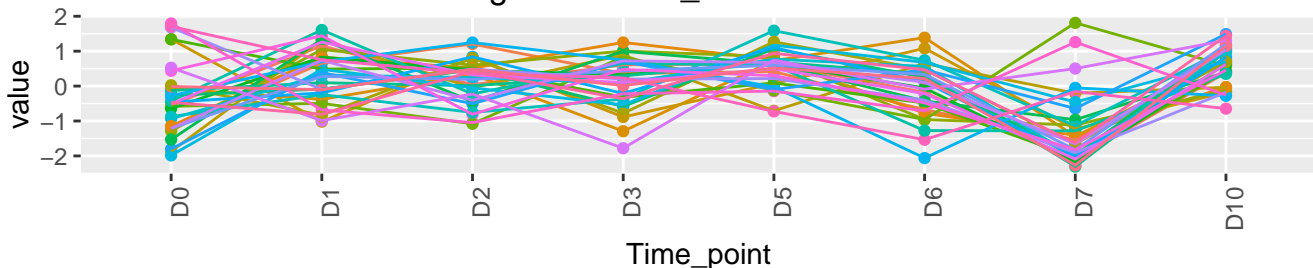


# Rap1 signaling pathway.Tln1-2;12

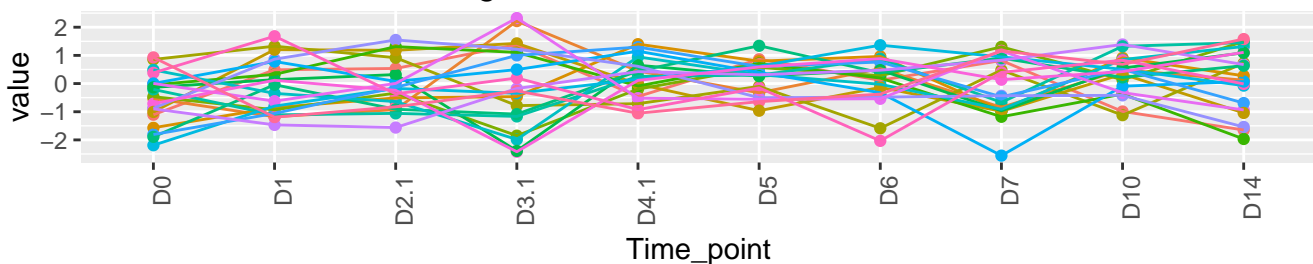
## 33 genes – EC\_WT-standardized



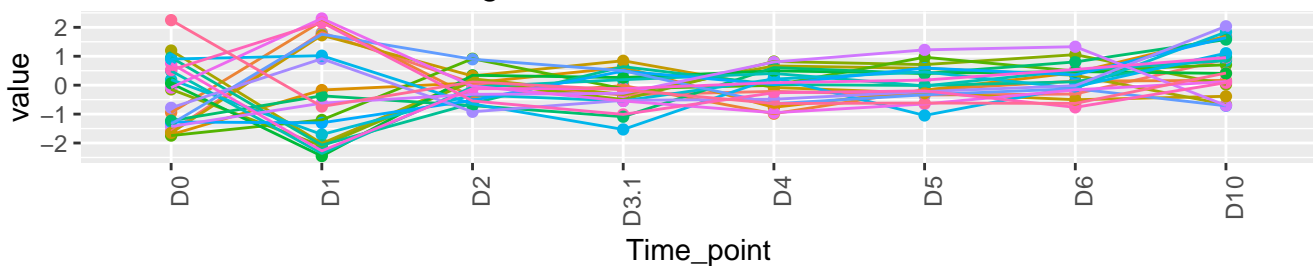
## 31 genes – EC\_KO-standardized



## 20 genes – FAP\_WT-standardized

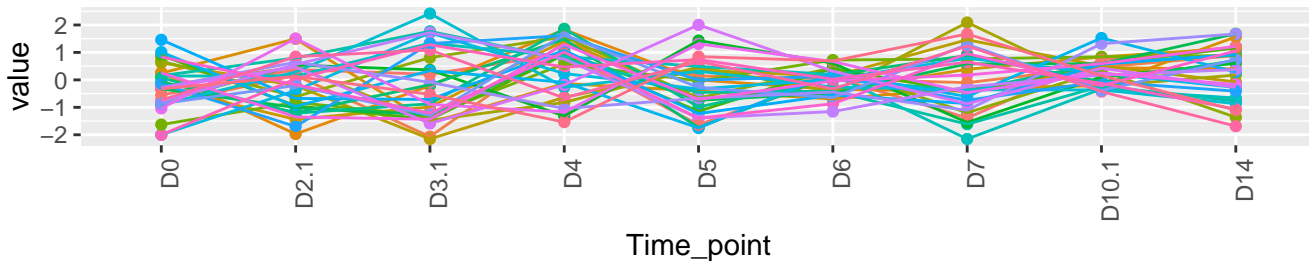


## 21 genes – FAP\_KO-standardized

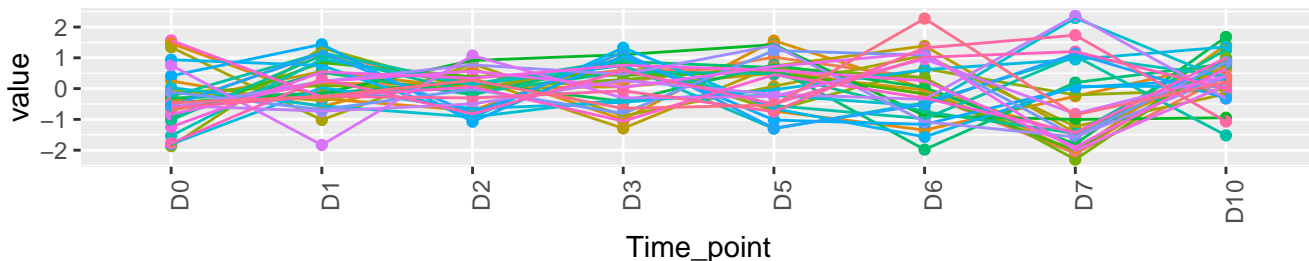


# Calcium signaling pathway

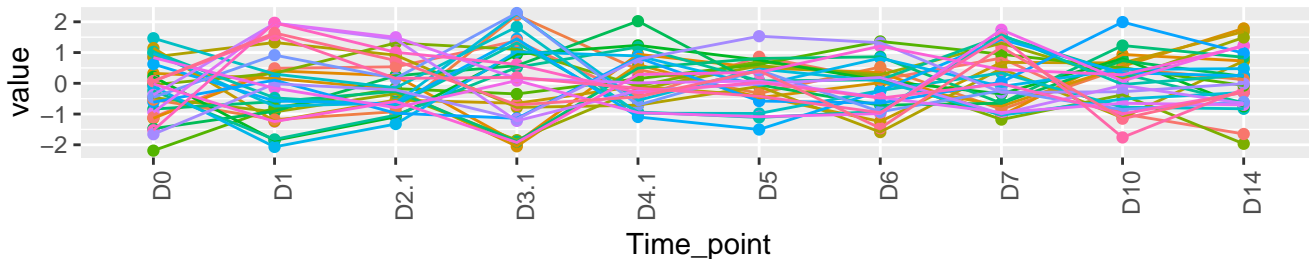
## 31 genes – EC\_WT-standardized



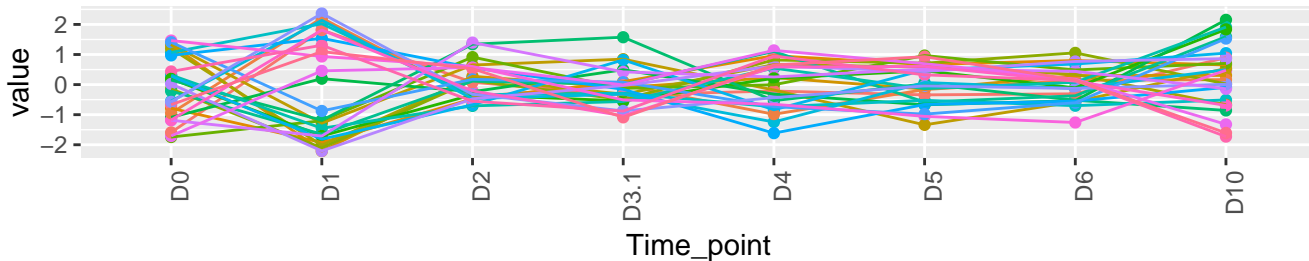
## 31 genes – EC\_KO-standardized



## 28 genes – FAP\_WT-standardized



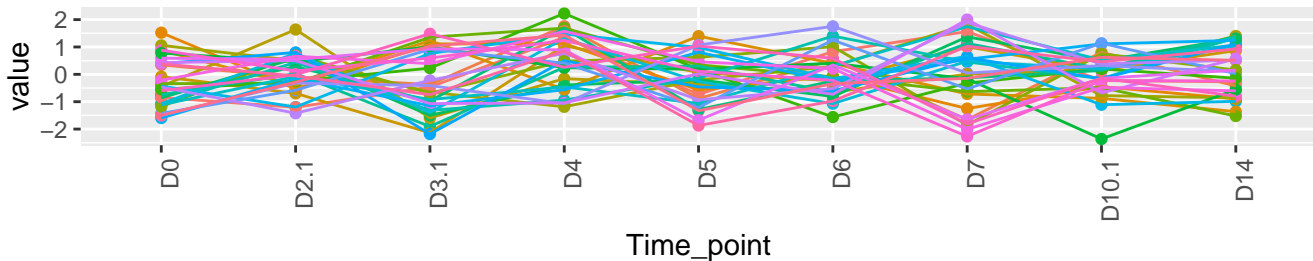
## 26 genes – FAP\_KO-standardized



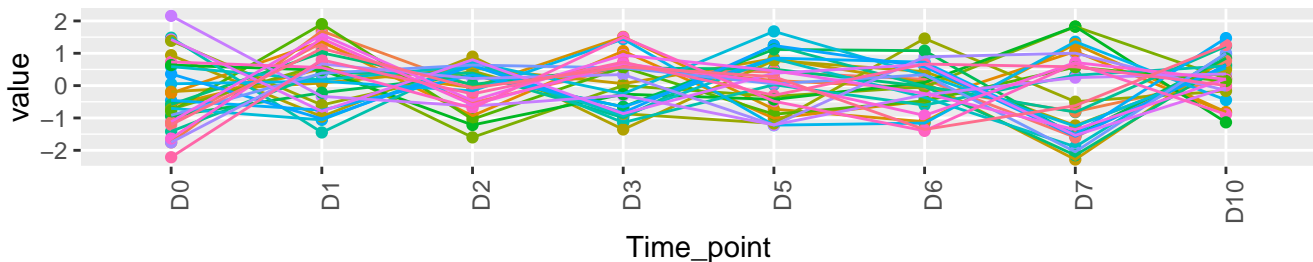


# AMPK signaling pathway

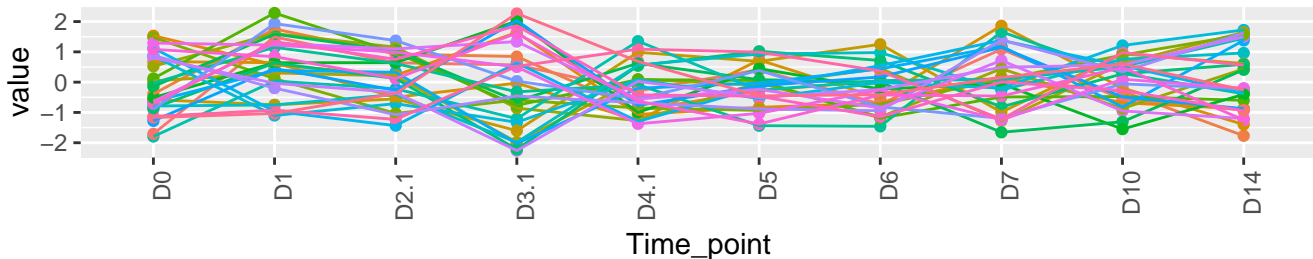
## 30 genes – EC\_WT-standardized



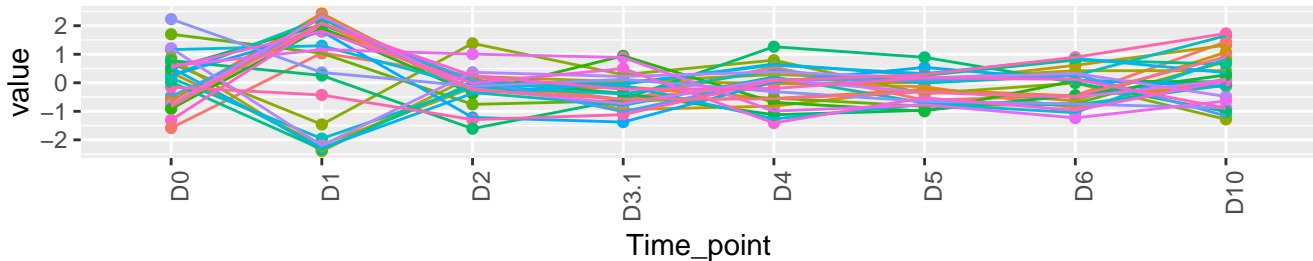
## 28 genes – EC\_KO-standardized



## 28 genes – FAP\_WT-standardized



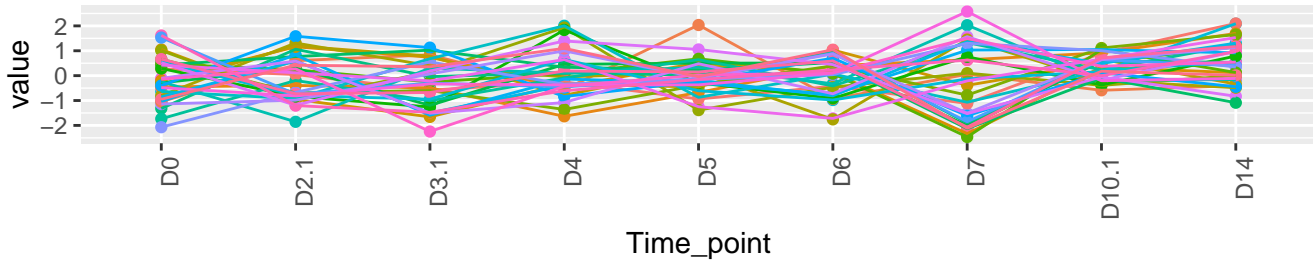
## 26 genes – FAP\_KO-standardized



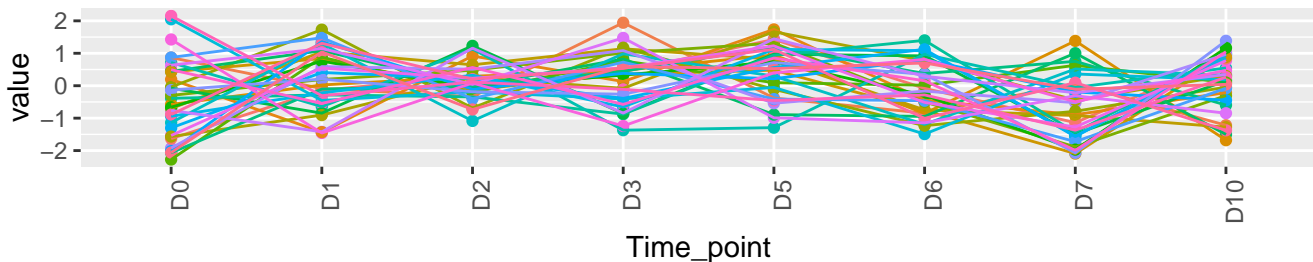


# MAPK signaling pathway.Ppm1a-1;20

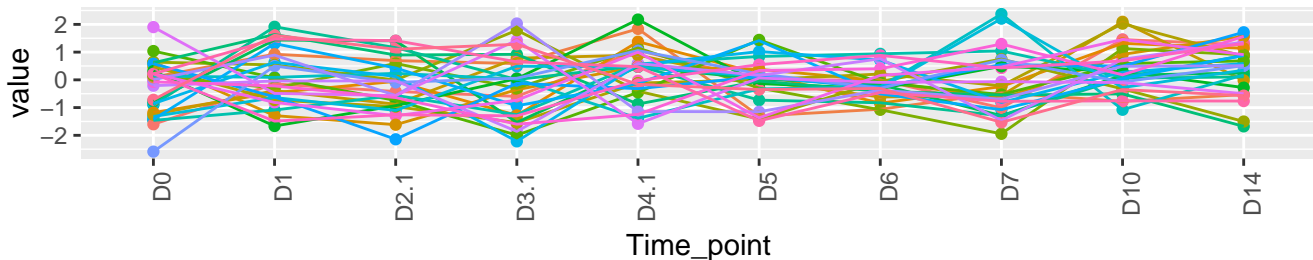
## 32 genes – EC\_WT-standardized



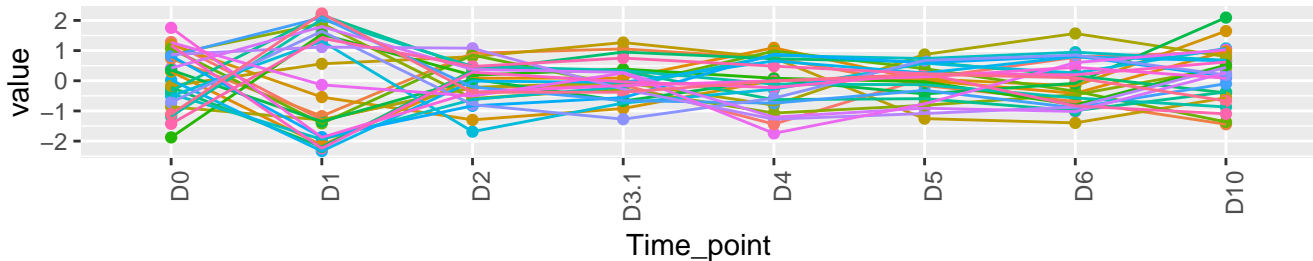
## 32 genes – EC\_KO-standardized



## 28 genes – FAP\_WT-standardized

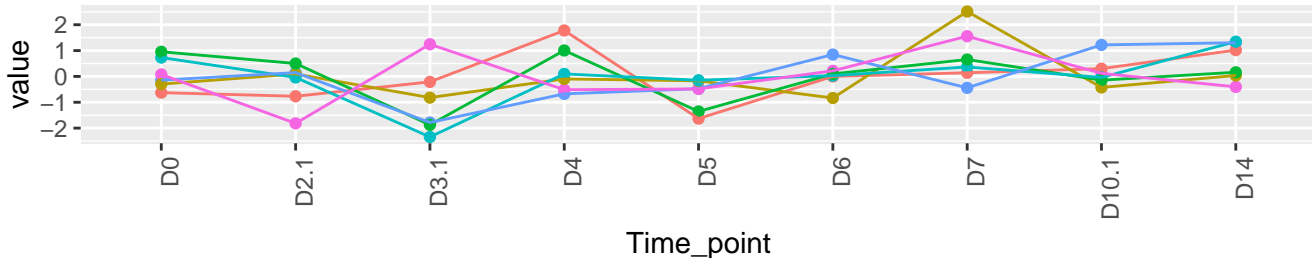


## 26 genes – FAP\_KO-standardized

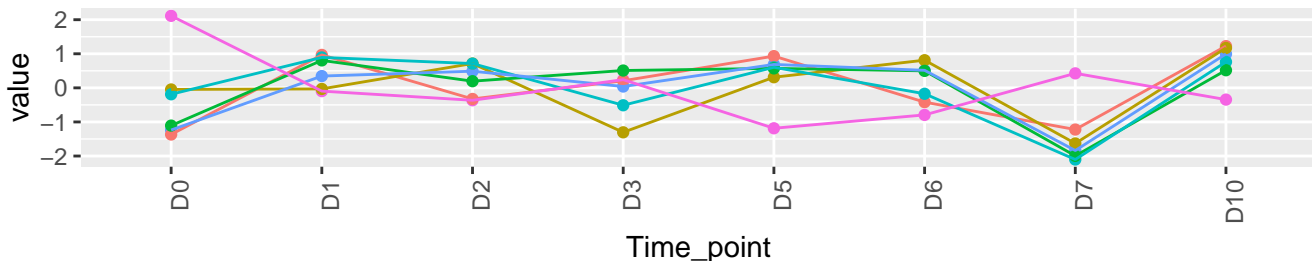


# Salmonella infection.Rab7-1;5

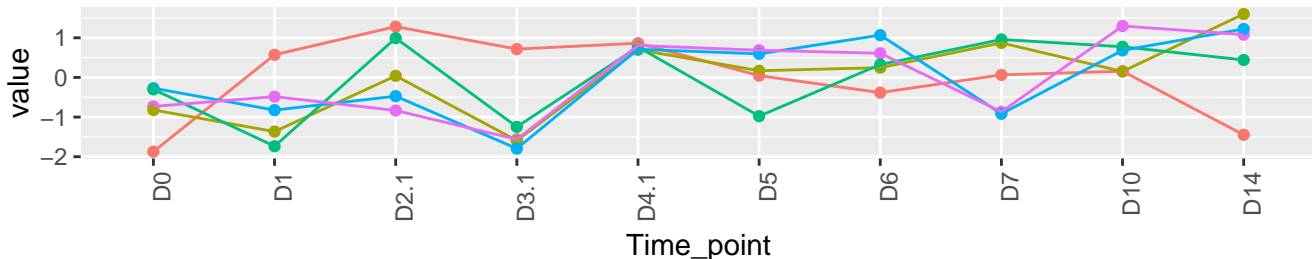
## 6 genes – EC\_WT-standardized



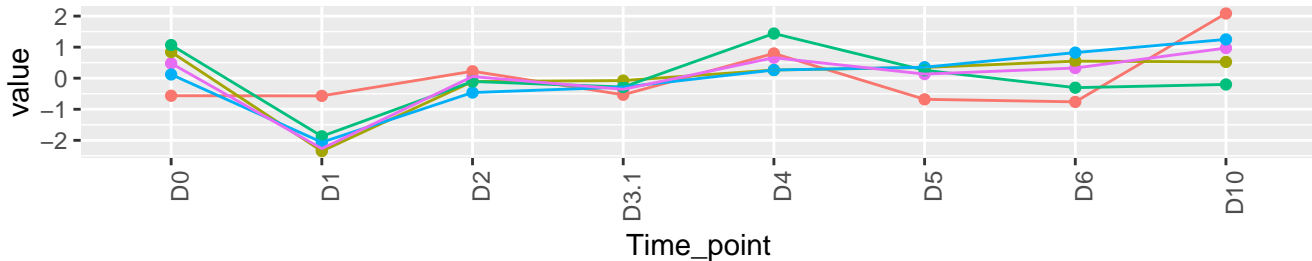
## 6 genes – EC\_KO-standardized



## 5 genes – FAP\_WT-standardized

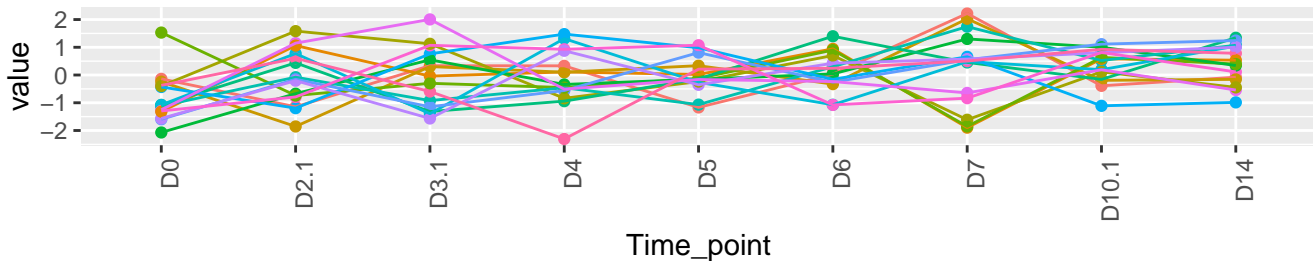


## 5 genes – FAP\_KO-standardized

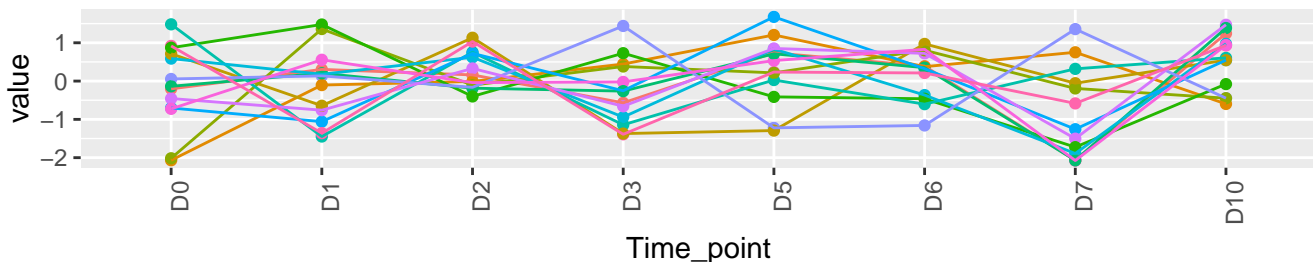


# Fc epsilon RI signaling pathway.Lyn-1;12

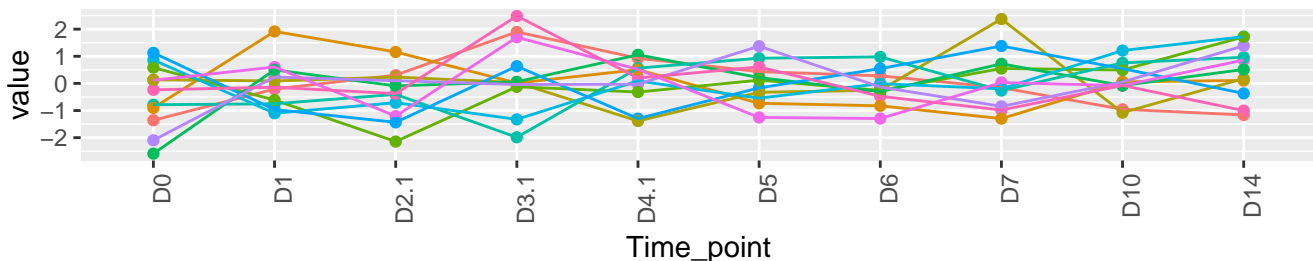
## 15 genes – EC\_WT-standardized



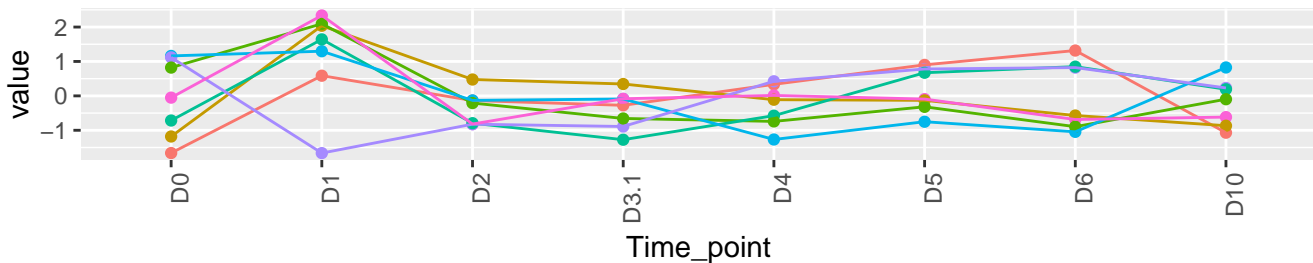
## 13 genes – EC\_KO-standardized



## 11 genes – FAP\_WT-standardized

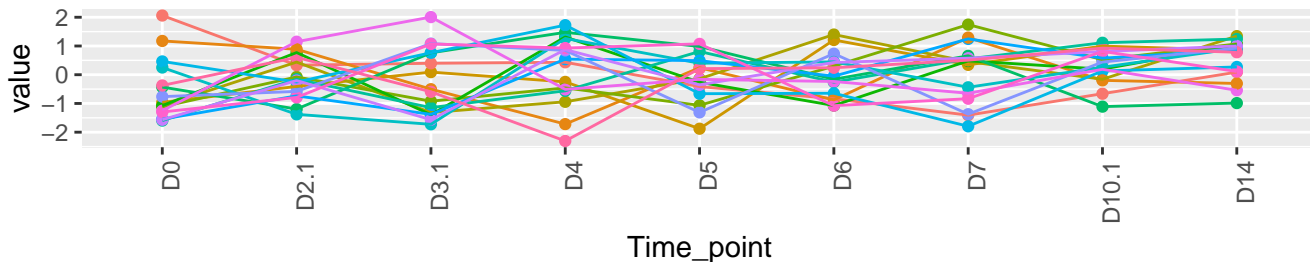


## 7 genes – FAP\_KO-standardized

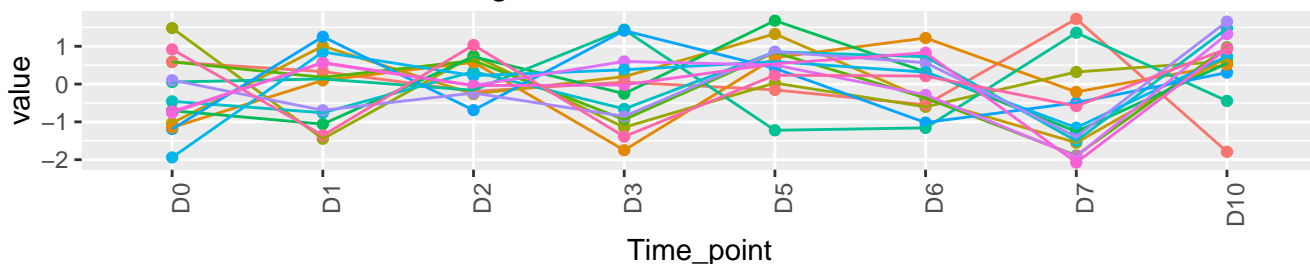


# Fc gamma R-mediated phagocytosis

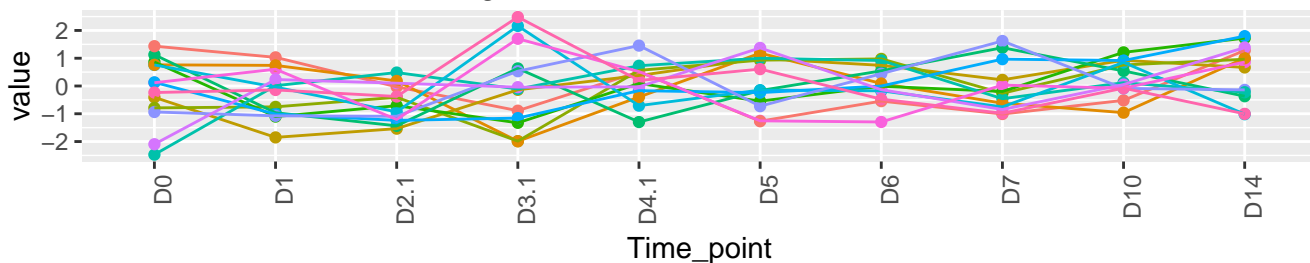
## 16 genes – EC\_WT-standardized



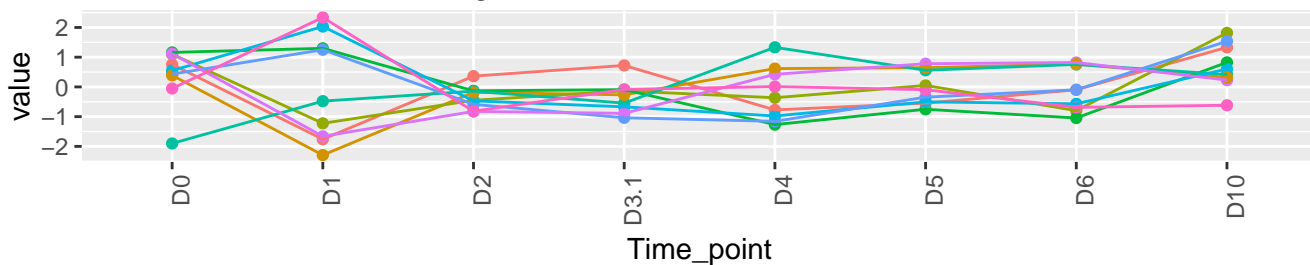
## 14 genes – EC\_KO-standardized



## 13 genes – FAP\_WT-standardized

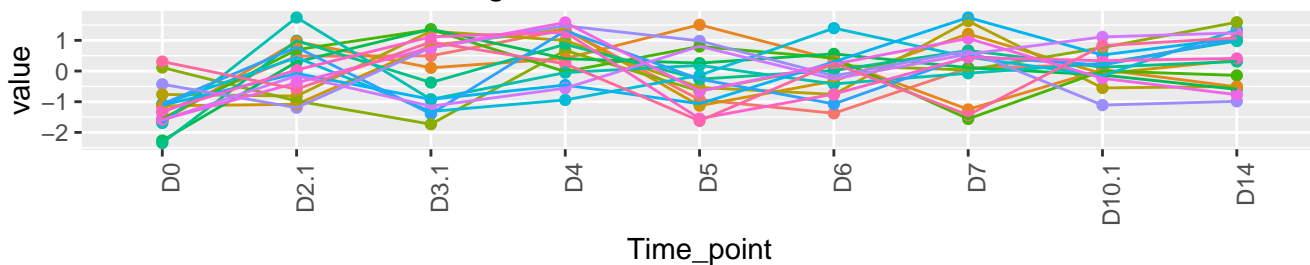


## 9 genes – FAP\_KO-standardized

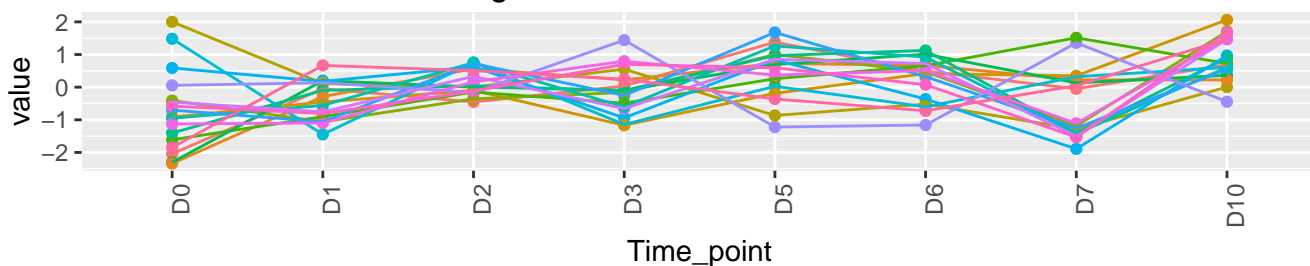


Measles.II2rg-1;10

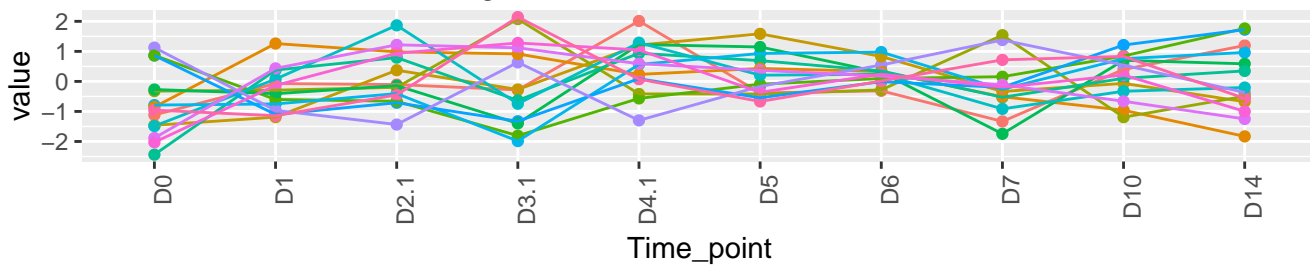
17 genes – EC\_WT-standardized



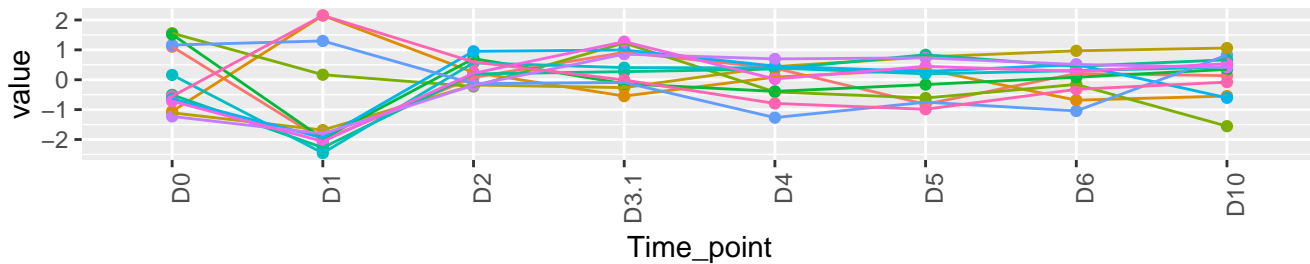
17 genes – EC\_KO-standardized



14 genes – FAP\_WT-standardized

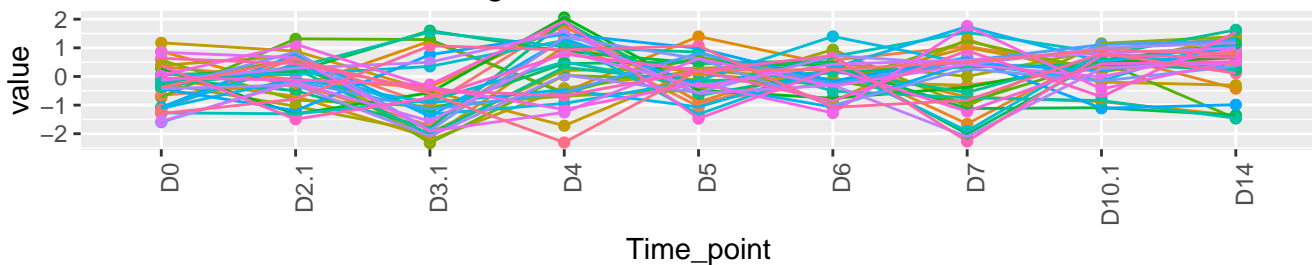


12 genes – FAP\_KO-standardized

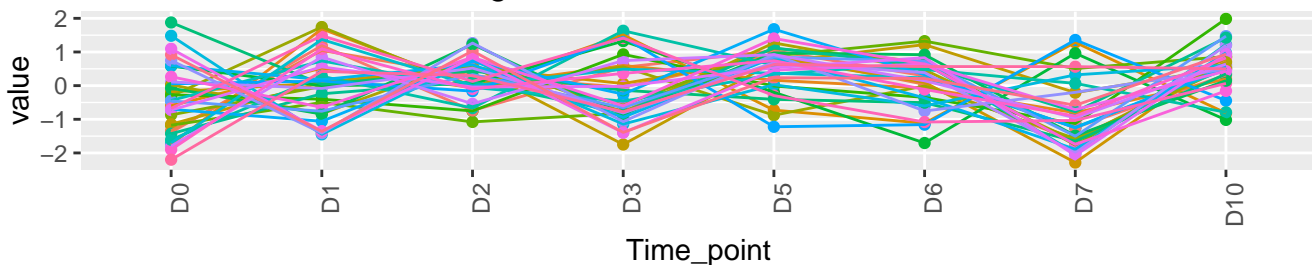


Focal adhesion.Pten-1;40

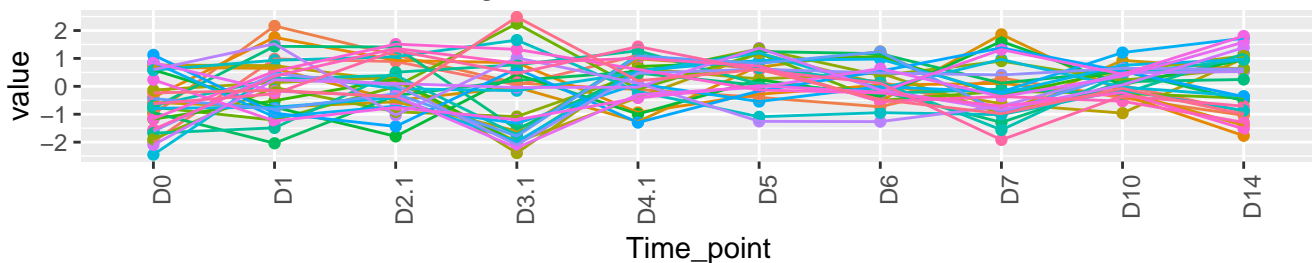
35 genes – EC\_WT-standardized



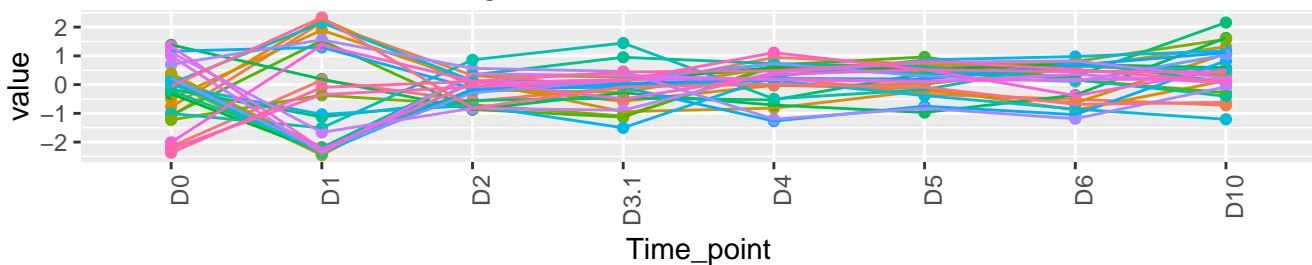
33 genes – EC\_KO-standardized



30 genes – FAP\_WT-standardized

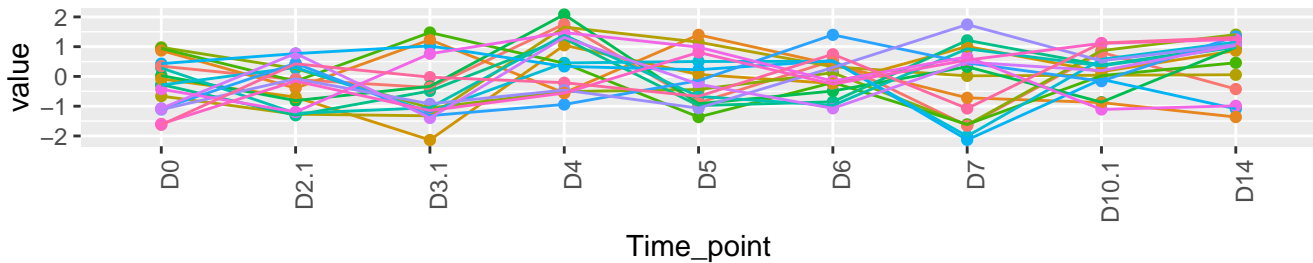


28 genes – FAP\_KO-standardized

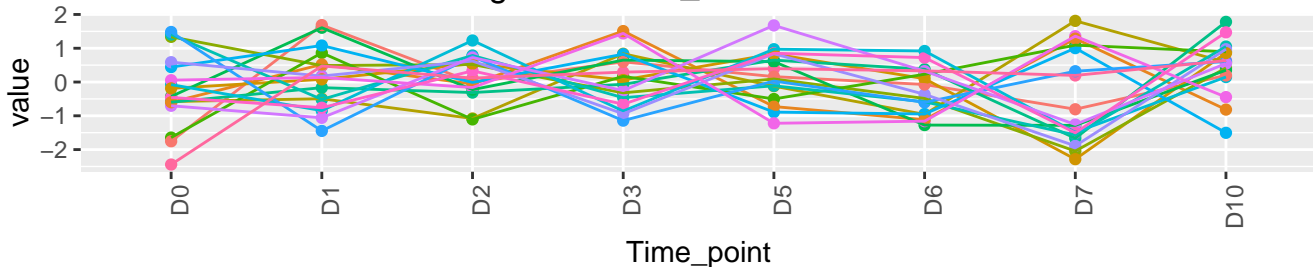


# Signaling pathways regulating pluripotency of stem cells.Fgfr3-1;7

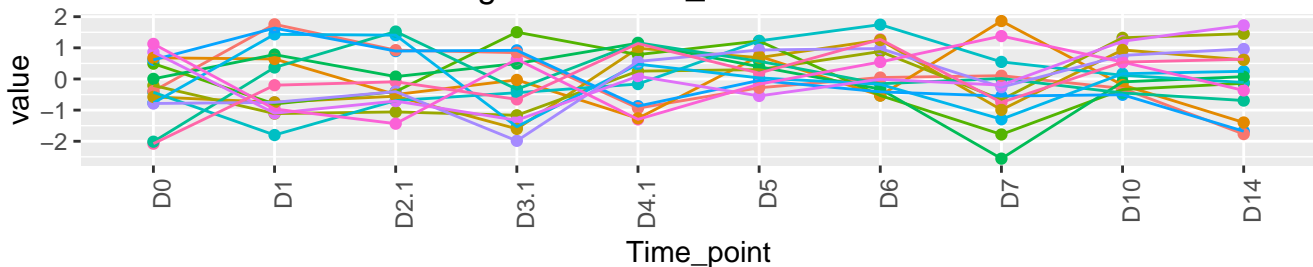
## 17 genes – EC\_WT-standardized



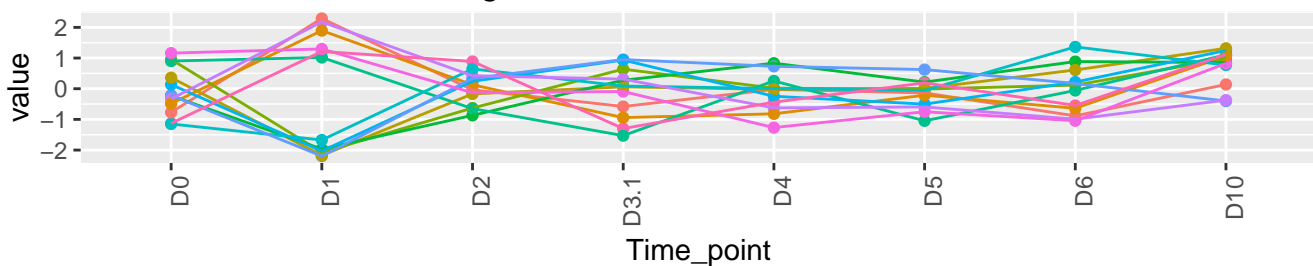
## 17 genes – EC\_KO-standardized



## 14 genes – FAP\_WT-standardized



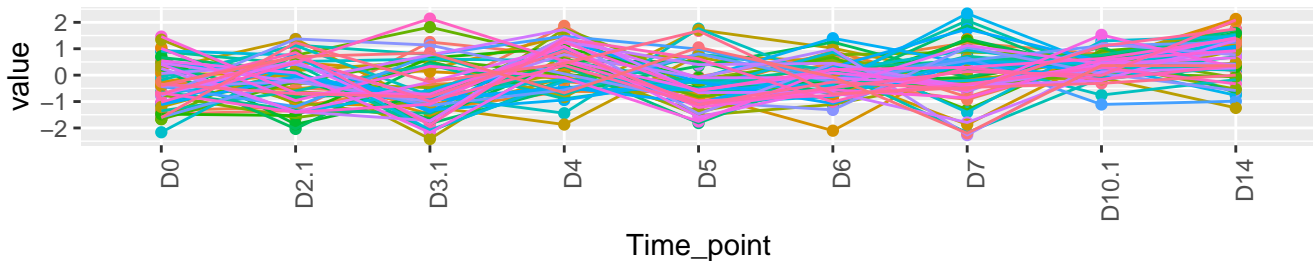
## 12 genes – FAP\_KO-standardized



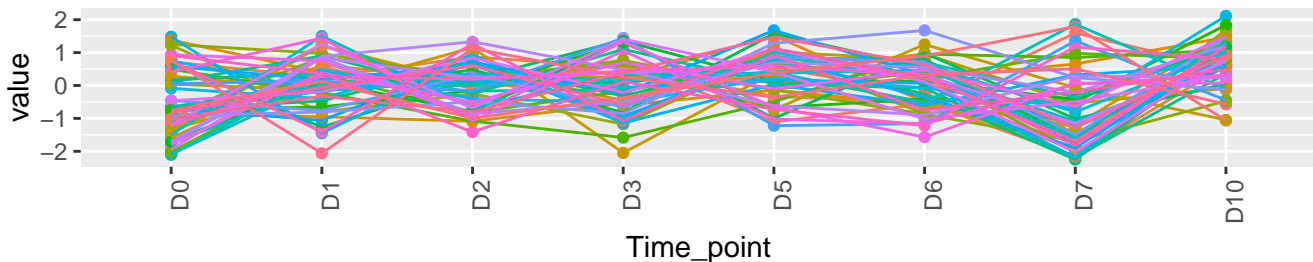


# Phosphatidylinositol signaling system

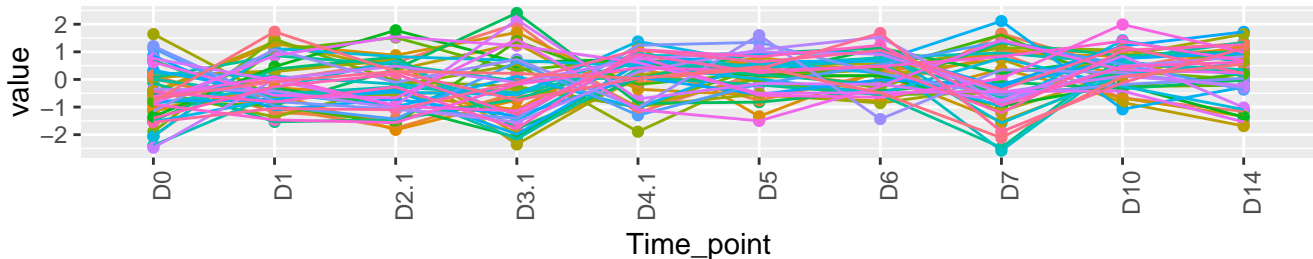
## 55 genes – EC\_WT-standardized



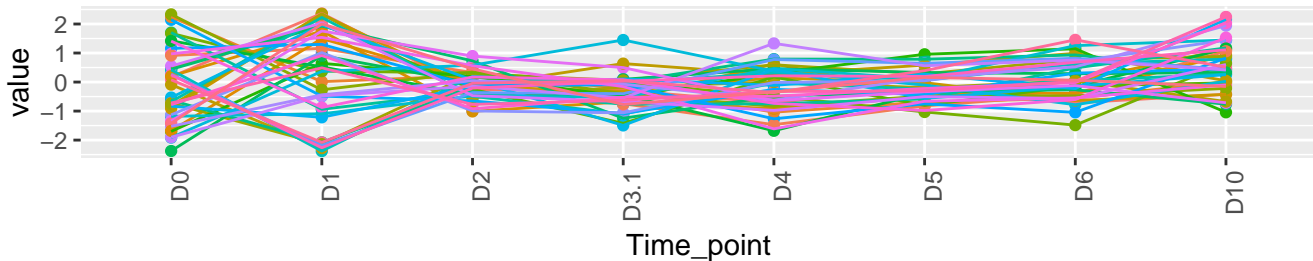
## 52 genes – EC\_KO-standardized



## 44 genes – FAP\_WT-standardized

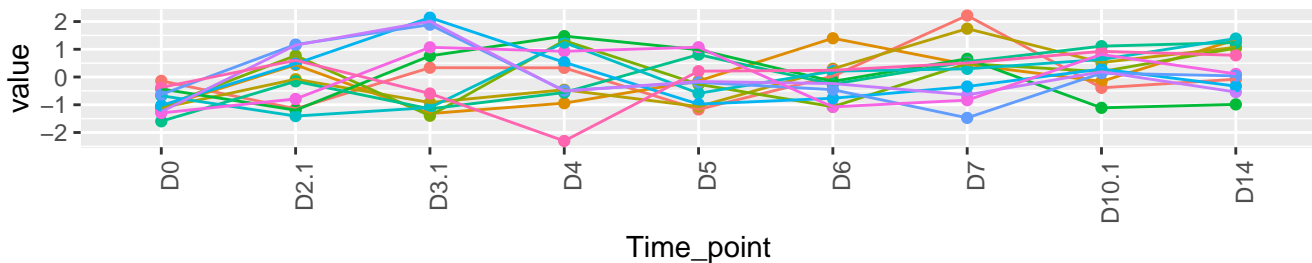


## 39 genes – FAP\_KO-standardized

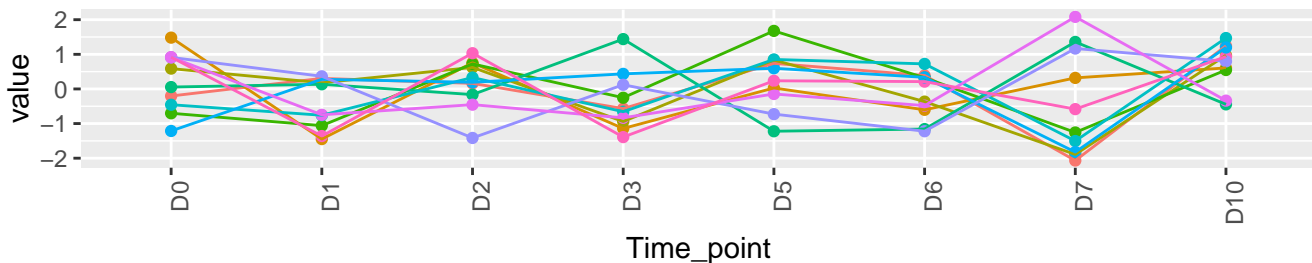


# Fc epsilon RI signaling pathway.Lyn-1;7

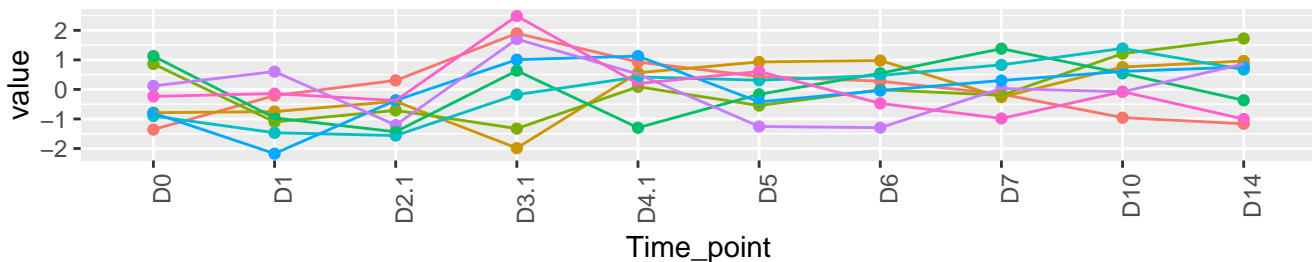
## 12 genes – EC\_WT-standardized



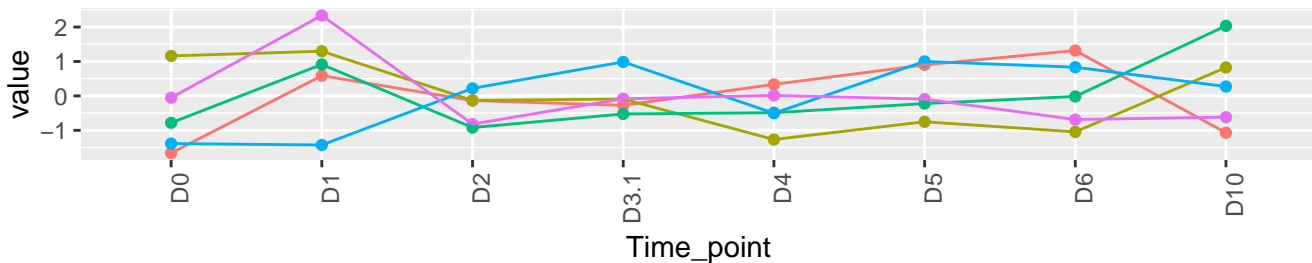
## 10 genes – EC\_KO-standardized



## 8 genes – FAP\_WT-standardized

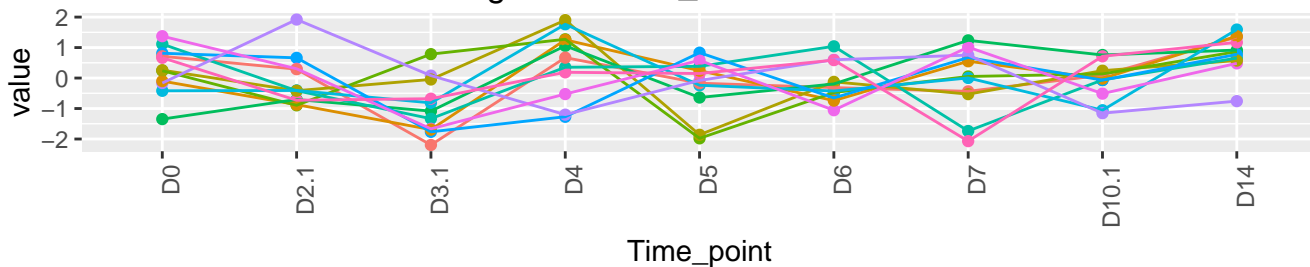


## 5 genes – FAP\_KO-standardized

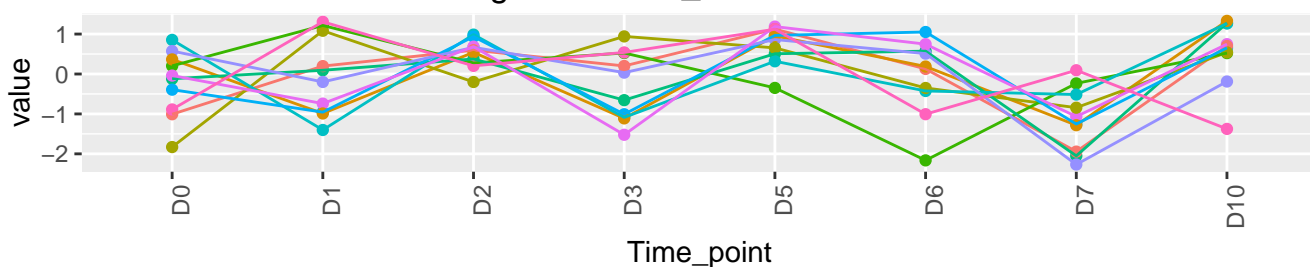


# cGMP-PKG signaling pathway.Npr2-35;39

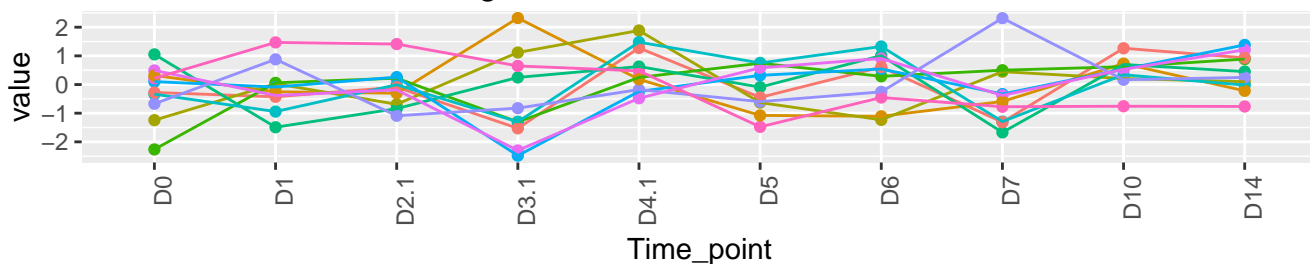
## 11 genes – EC\_WT-standardized



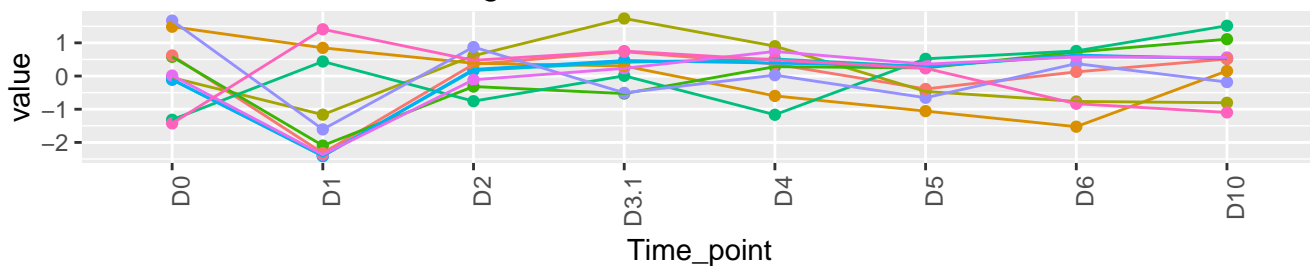
## 10 genes – EC\_KO-standardized



## 10 genes – FAP\_WT-standardized

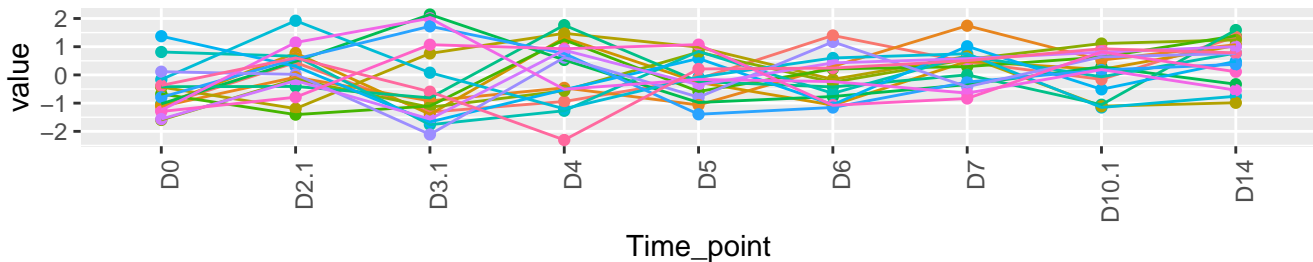


## 10 genes – FAP\_KO-standardized

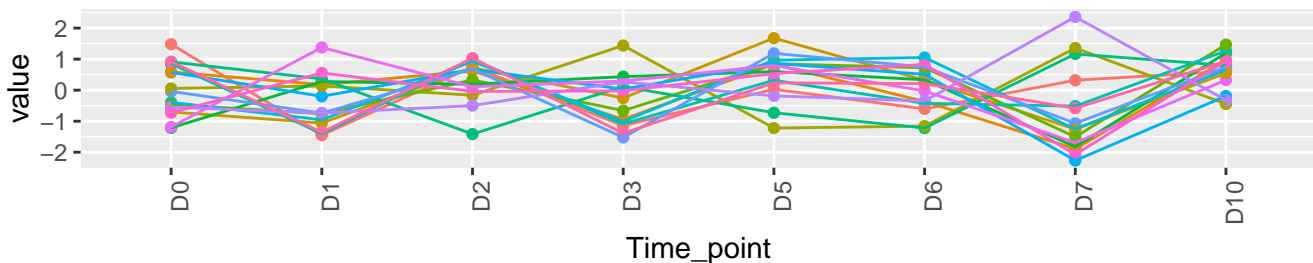


# Natural killer cell mediated cytotoxicity.Ptpn11-1;11

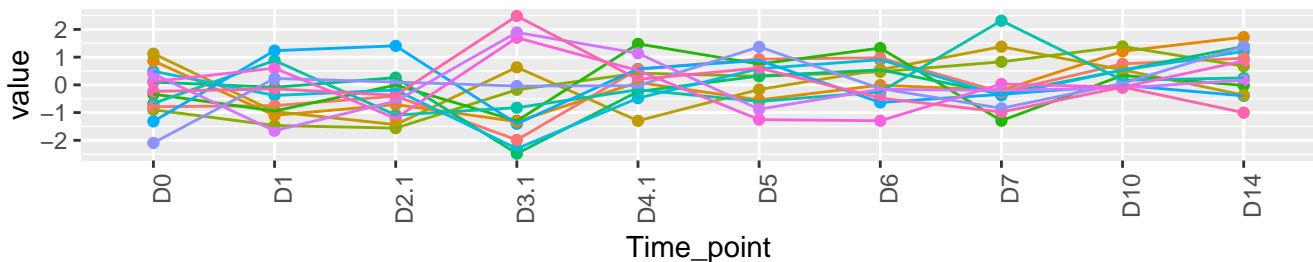
## 17 genes – EC\_WT-standardized



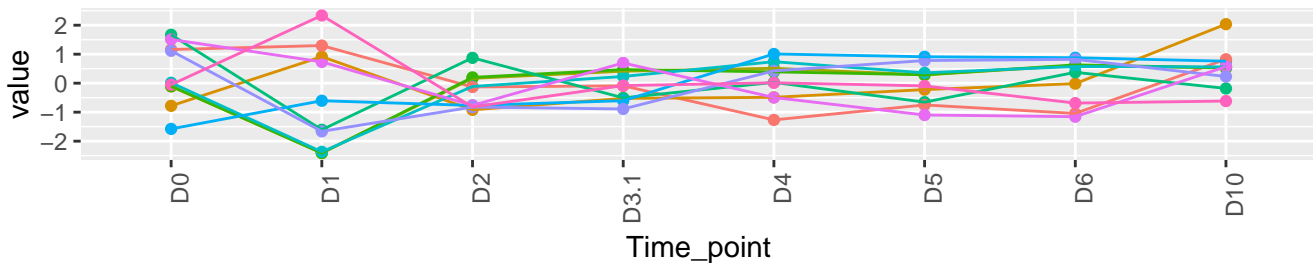
## 15 genes – EC\_KO-standardized



## 13 genes – FAP\_WT-standardized

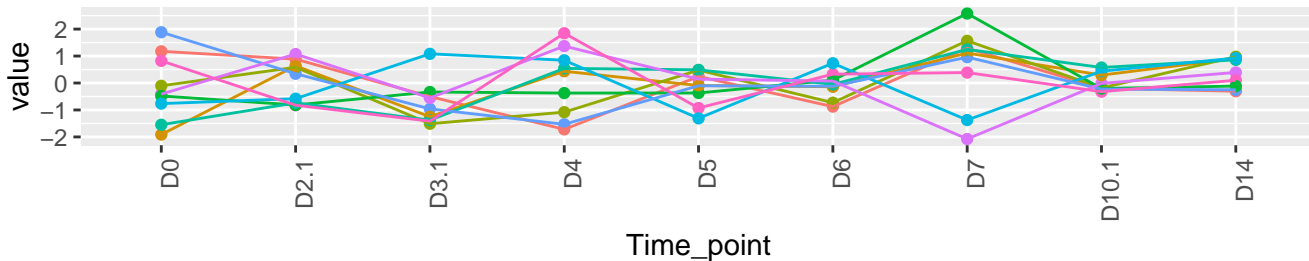


## 10 genes – FAP\_KO-standardized

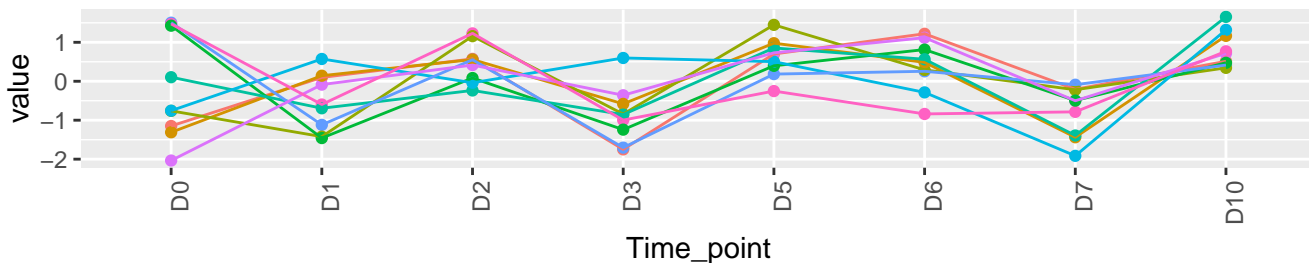


# Ras signaling pathway.null-1;27

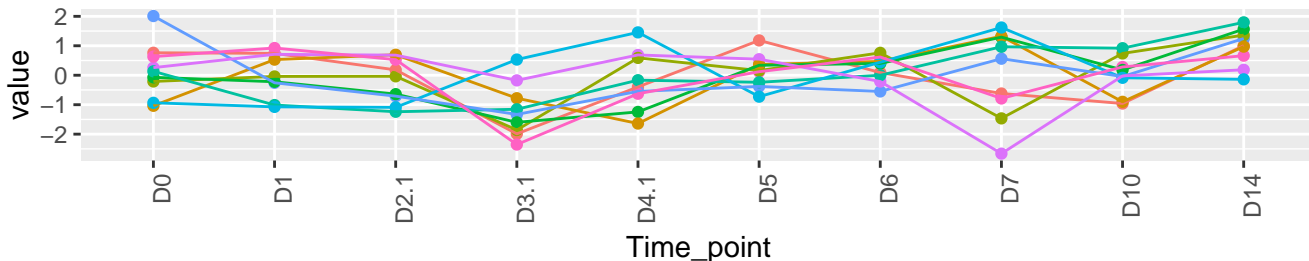
## 9 genes – EC\_WT-standardized



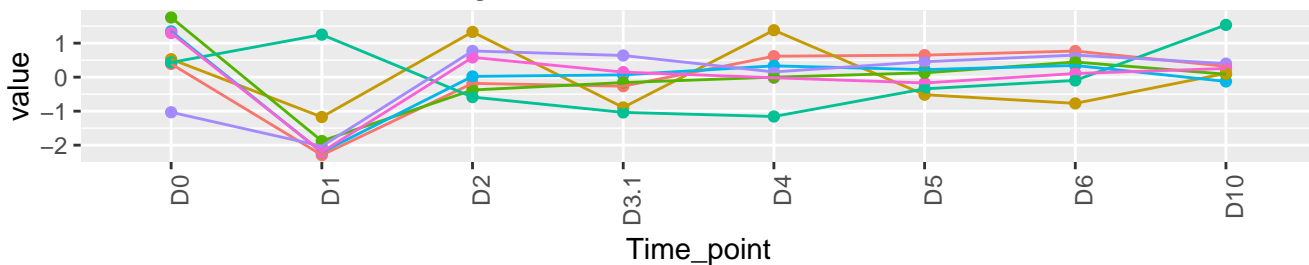
## 9 genes – EC\_KO-standardized



## 9 genes – FAP\_WT-standardized

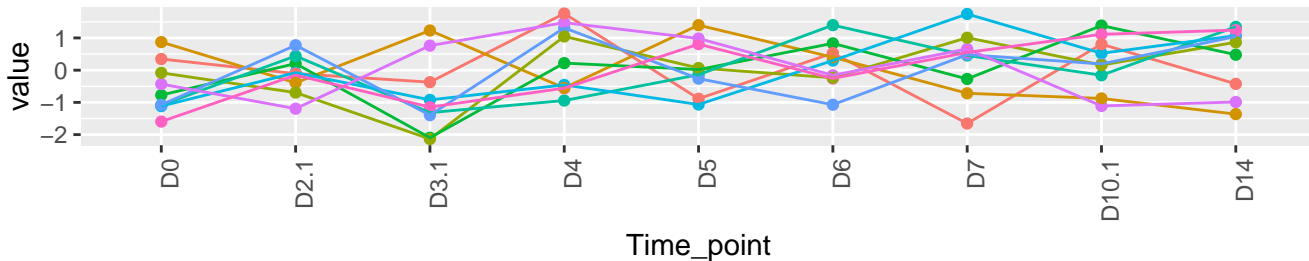


## 7 genes – FAP\_KO-standardized

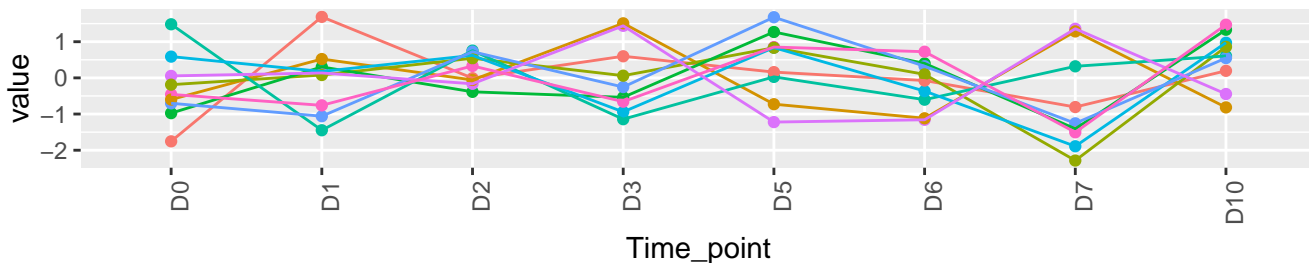


# Osteoclast differentiation.Tgfb2-3;6

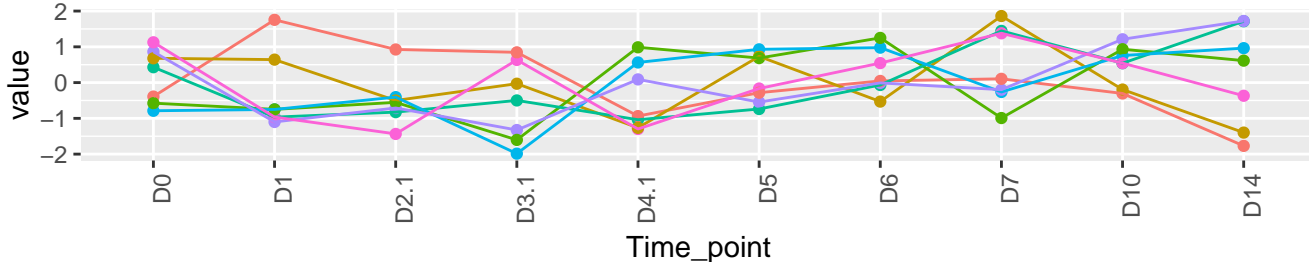
## 9 genes – EC\_WT-standardized



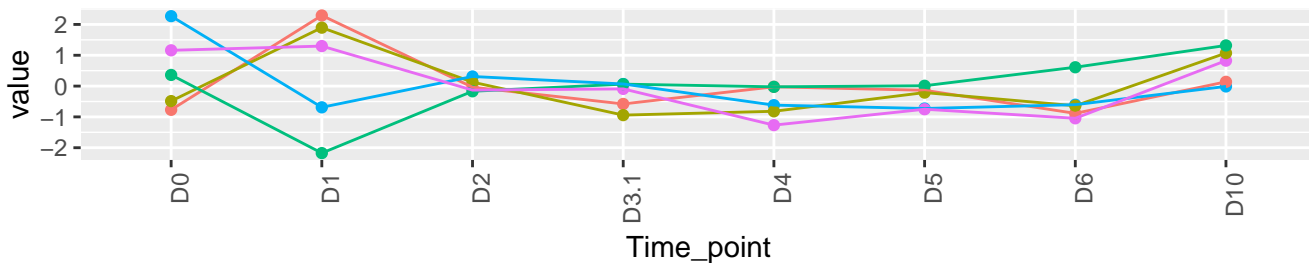
## 9 genes – EC\_KO-standardized



## 7 genes – FAP\_WT-standardized

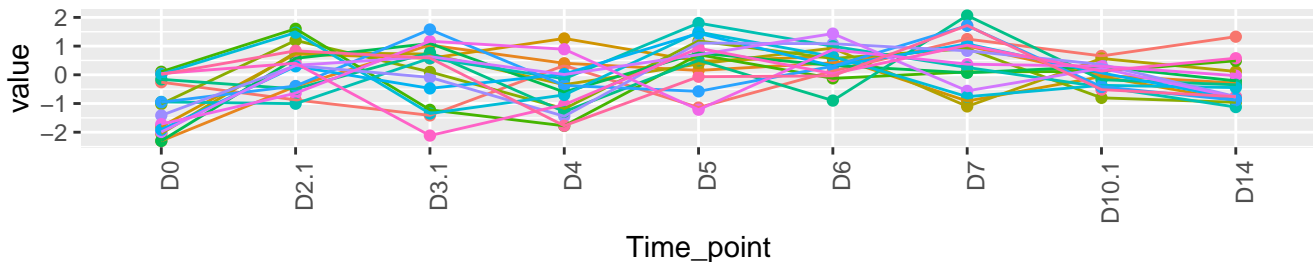


## 5 genes – FAP\_KO-standardized

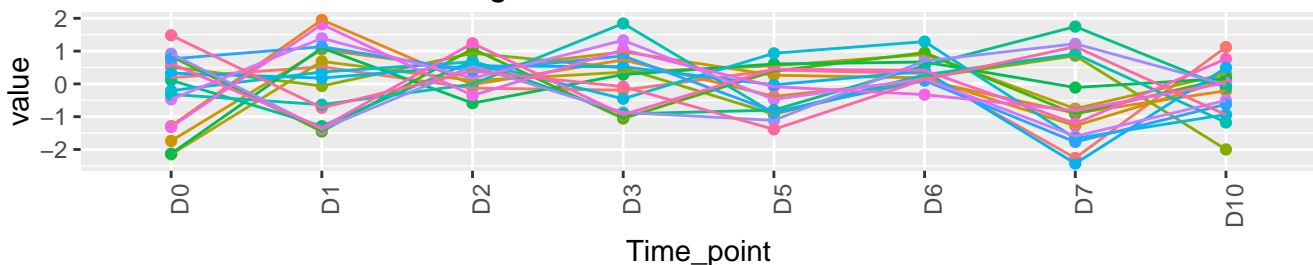


# Citrate cycle (TCA cycle)

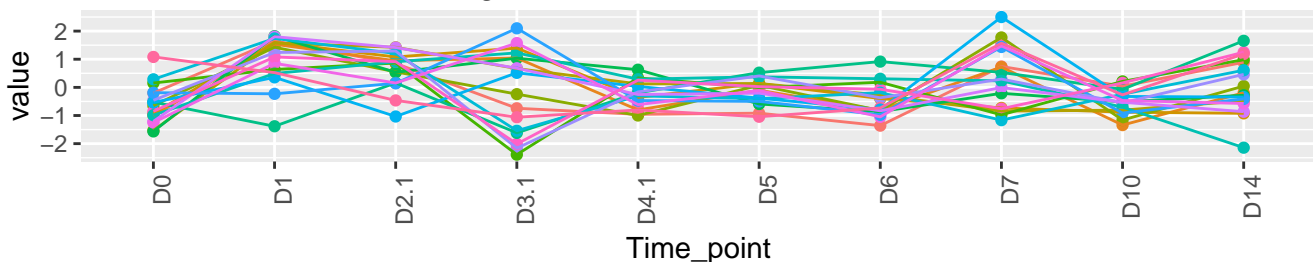
## 17 genes – EC\_WT-standardized



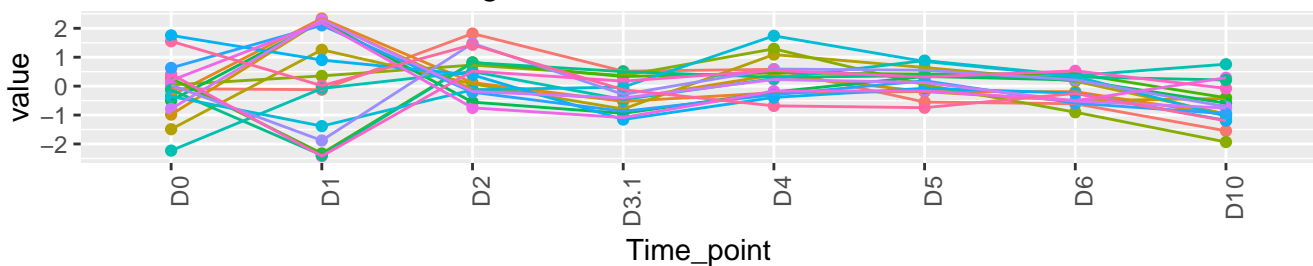
## 17 genes – EC\_KO-standardized



## 17 genes – FAP\_WT-standardized



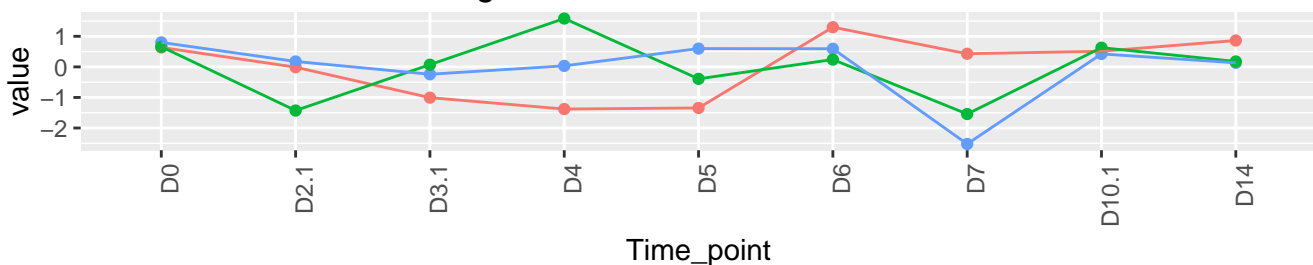
## 17 genes – FAP\_KO-standardized



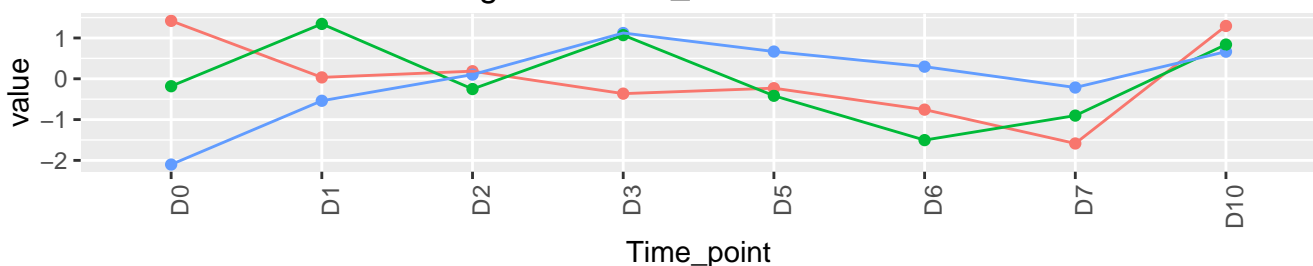


# Thyroid cancer

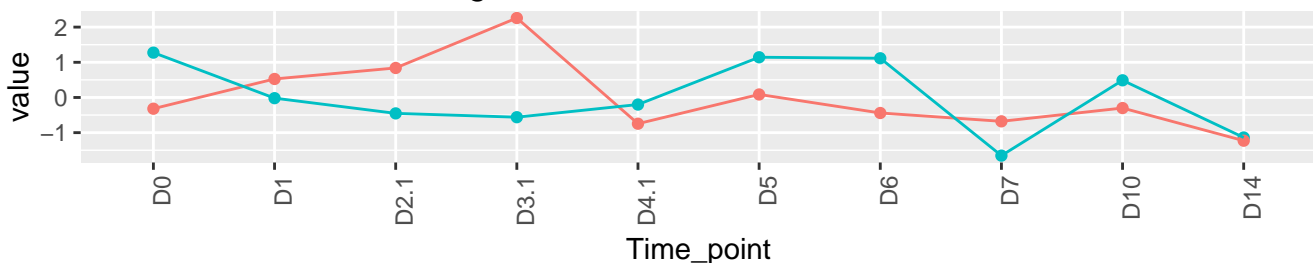
## 3 genes – EC\_WT-standardized



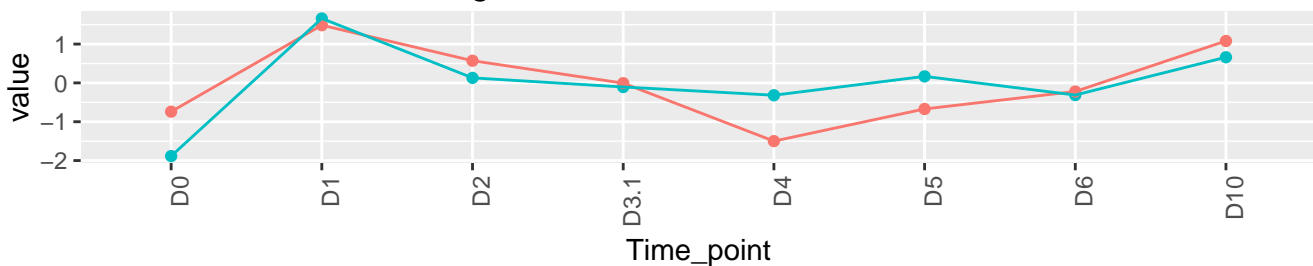
## 3 genes – EC\_KO-standardized



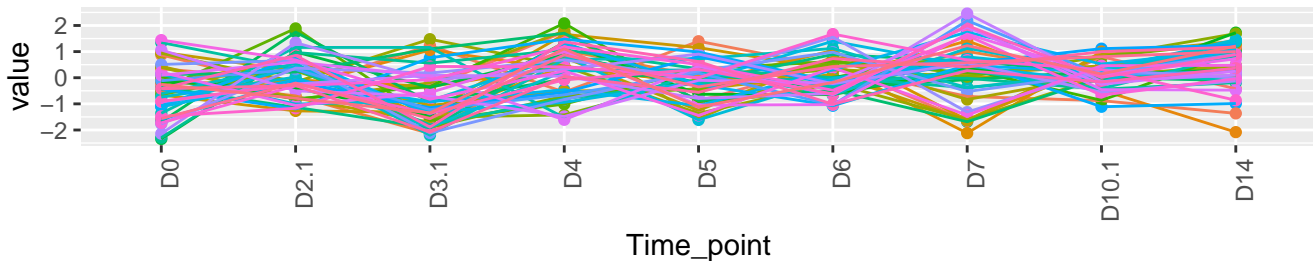
## 2 genes – FAP\_WT-standardized



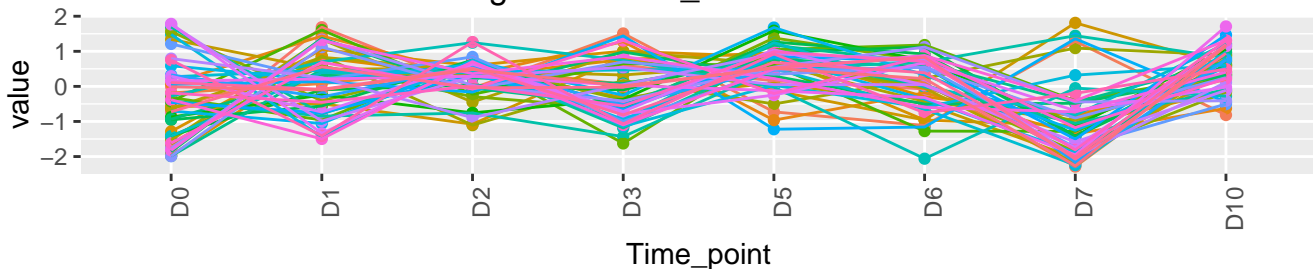
## 2 genes – FAP\_KO-standardized



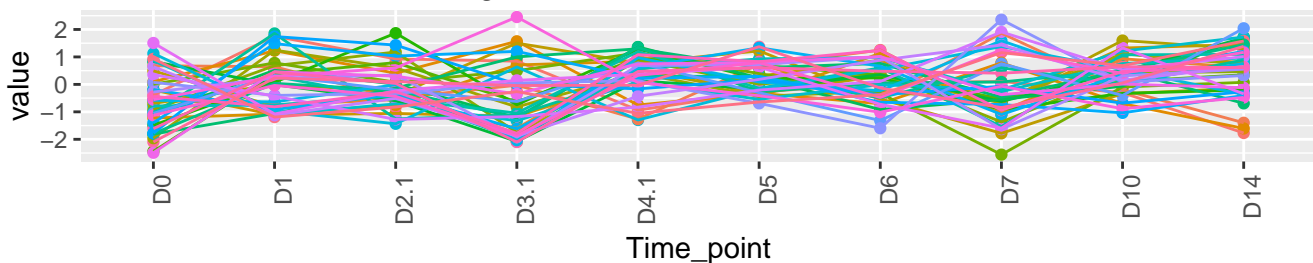
PI3K-Akt signaling pathway  
47 genes – EC\_WT-standardized



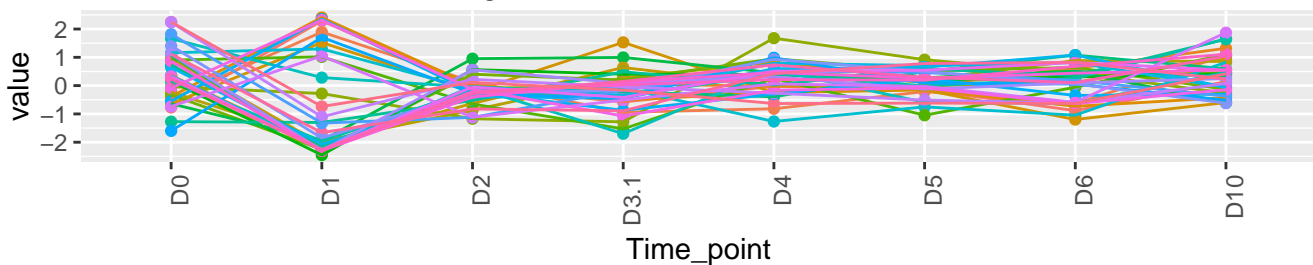
48 genes – EC\_KO-standardized



39 genes – FAP\_WT-standardized

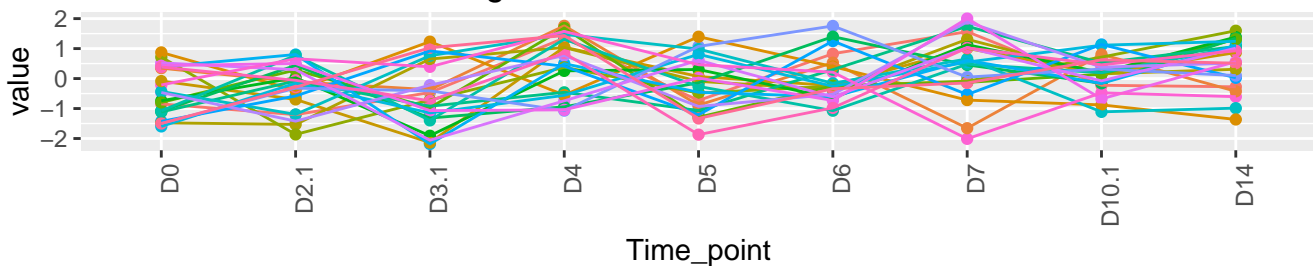


35 genes – FAP\_KO-standardized

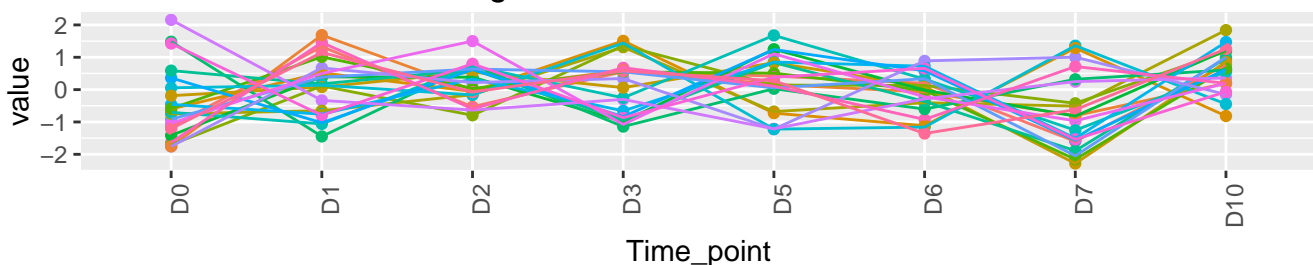


# Insulin signaling pathway.Prkaa1-1;14

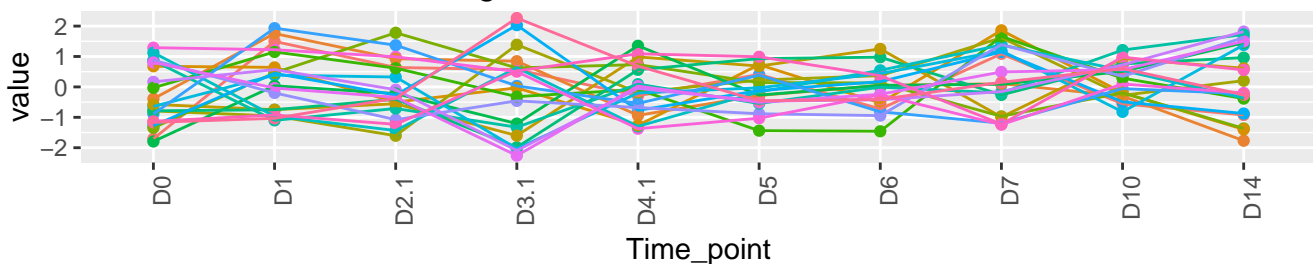
## 22 genes – EC\_WT-standardized



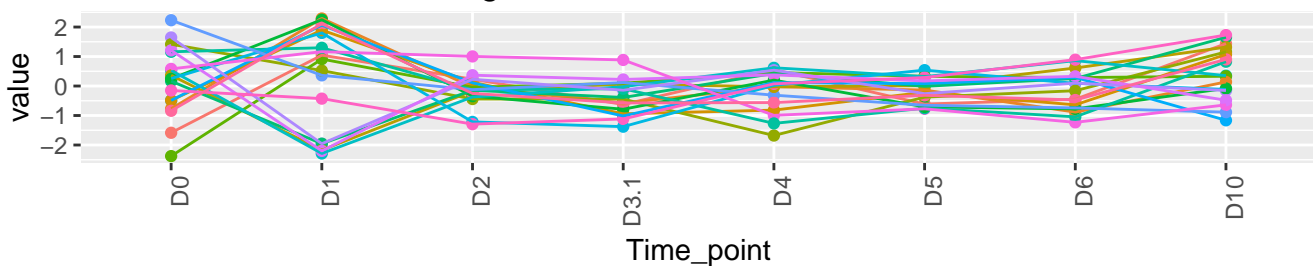
## 21 genes – EC\_KO-standardized



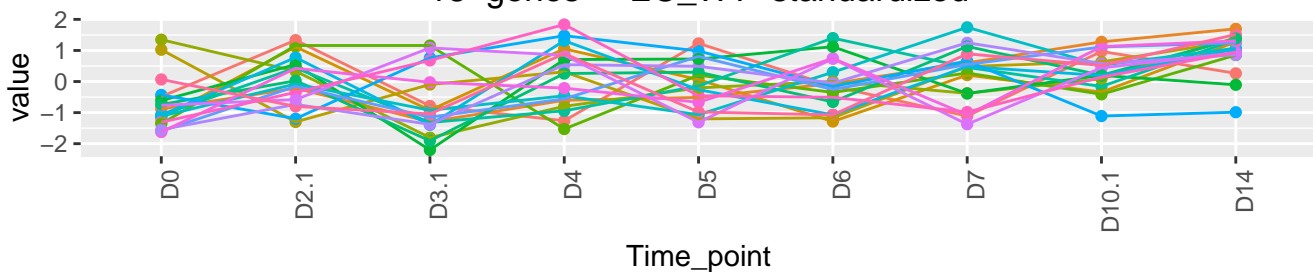
## 20 genes – FAP\_WT-standardized



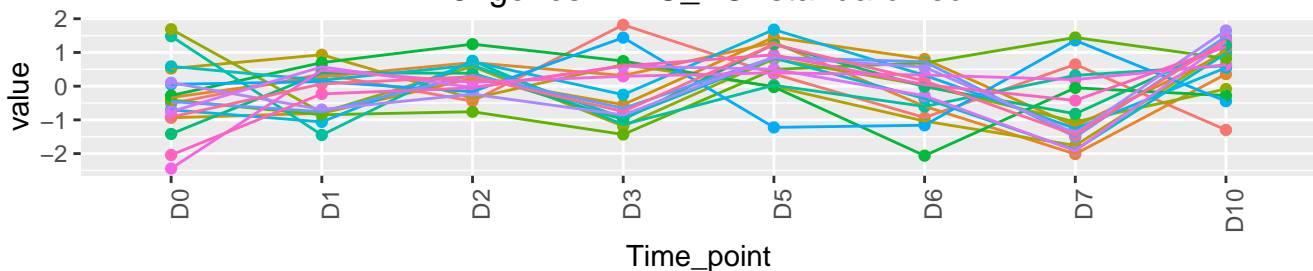
## 18 genes – FAP\_KO-standardized



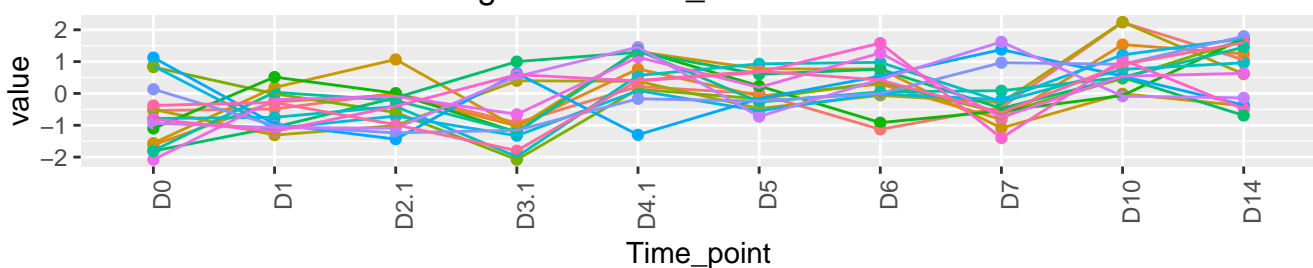
Choline metabolism in cancer  
18 genes – EC\_WT-standardized



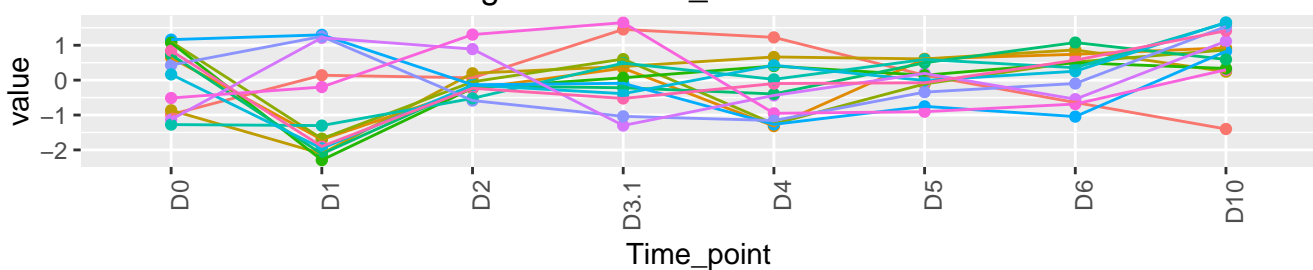
18 genes – EC\_KO-standardized



16 genes – FAP\_WT-standardized

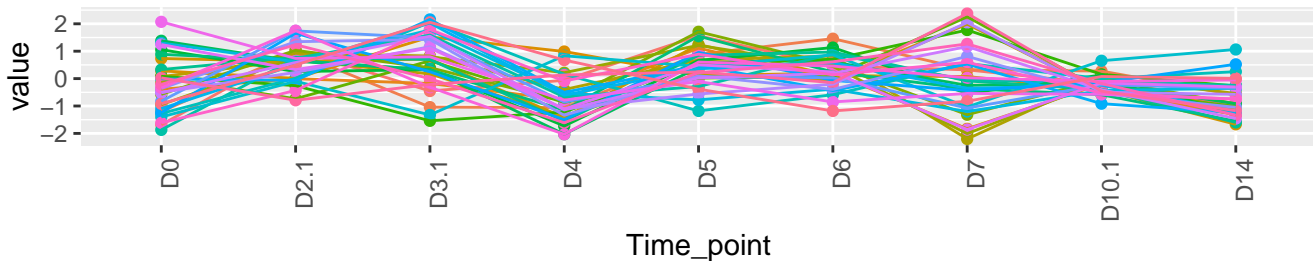


13 genes – FAP\_KO-standardized

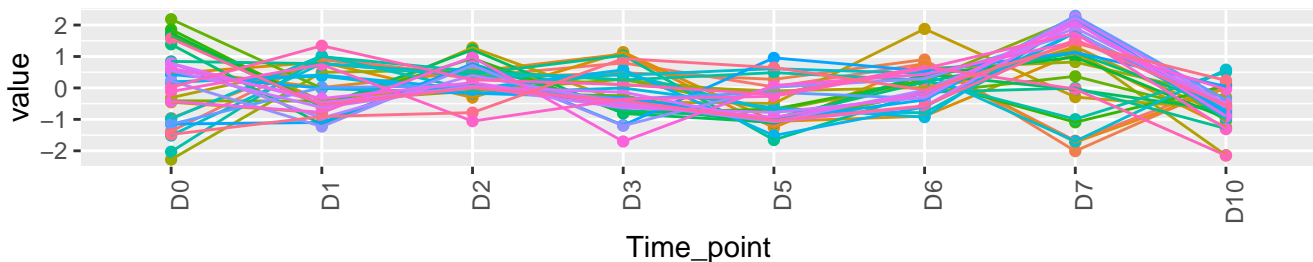


# Oxidative phosphorylation

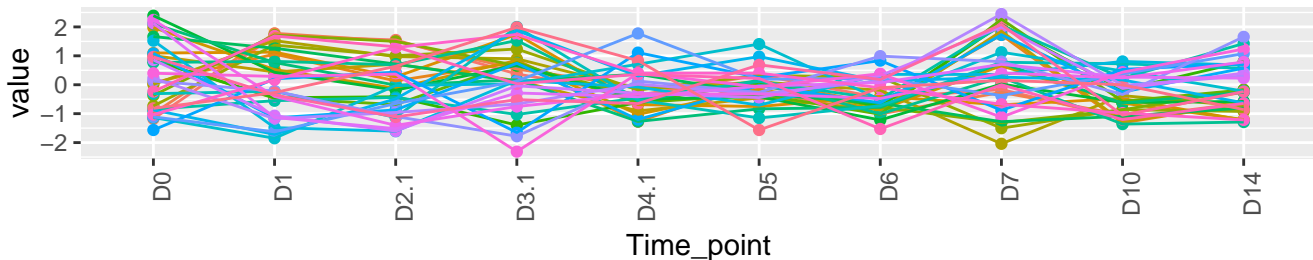
## 33 genes – EC\_WT-standardized



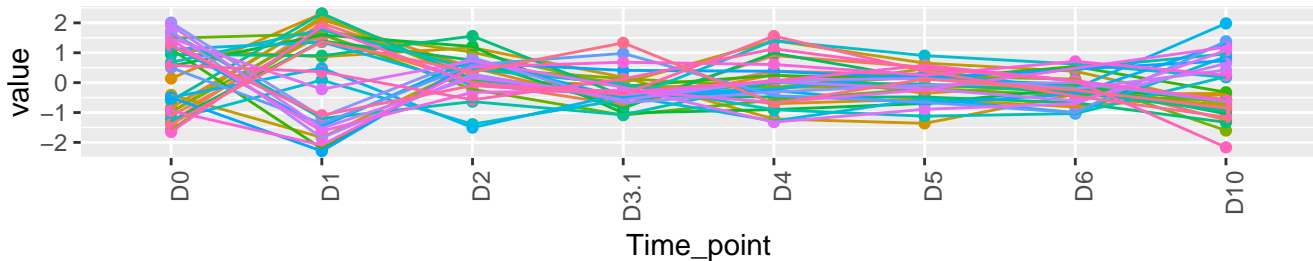
## 33 genes – EC\_KO-standardized



## 33 genes – FAP\_WT-standardized

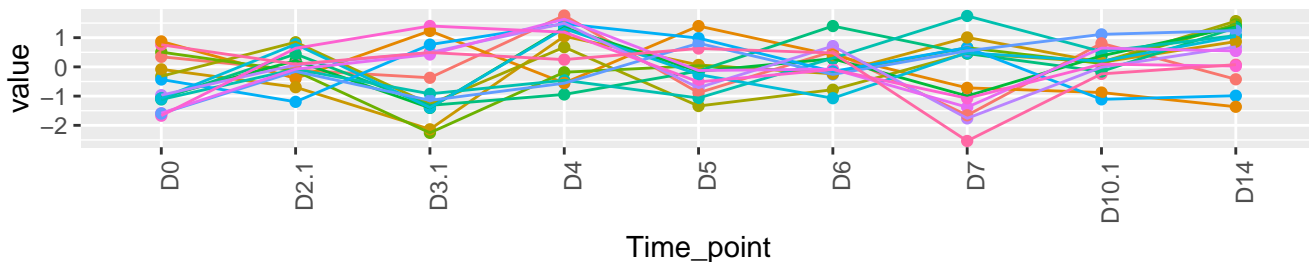


## 33 genes – FAP\_KO-standardized

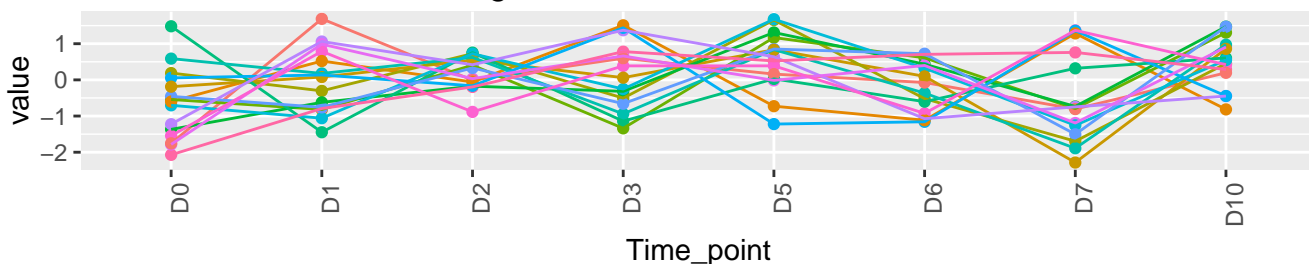


# TNF signaling pathway.Map3k8-1;30

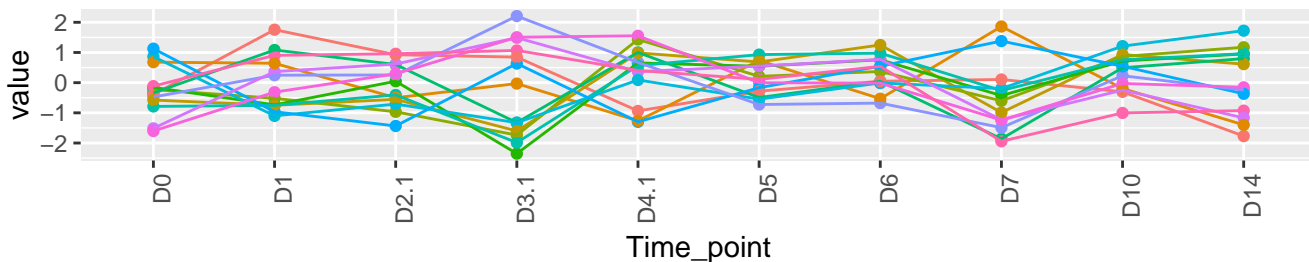
## 15 genes – EC\_WT-standardized



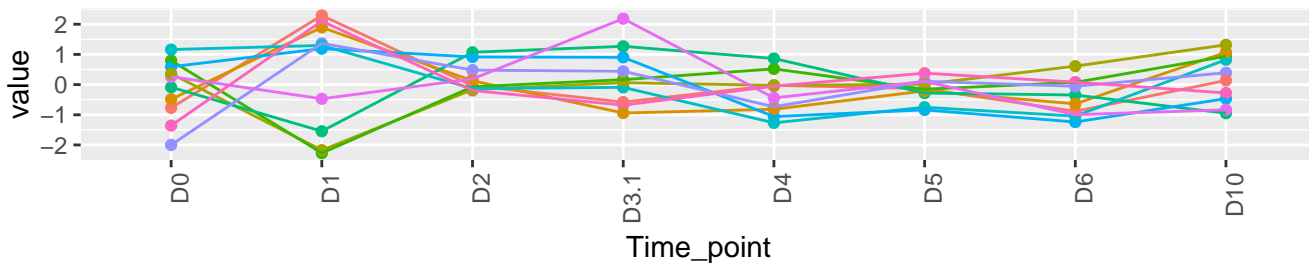
## 15 genes – EC\_KO-standardized



## 13 genes – FAP\_WT-standardized

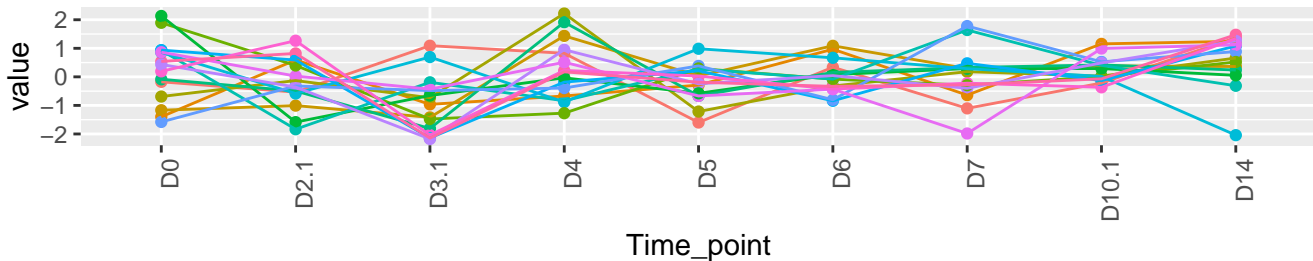


## 10 genes – FAP\_KO-standardized

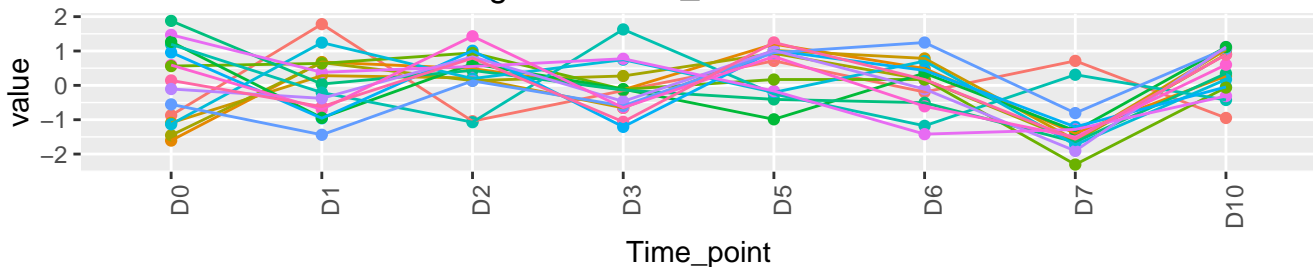


# Regulation of actin cytoskeleton.Myh9-1;21

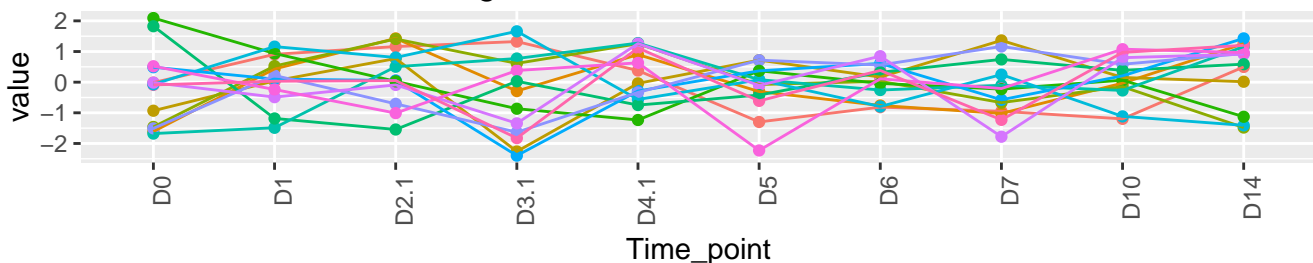
## 15 genes – EC\_WT-standardized



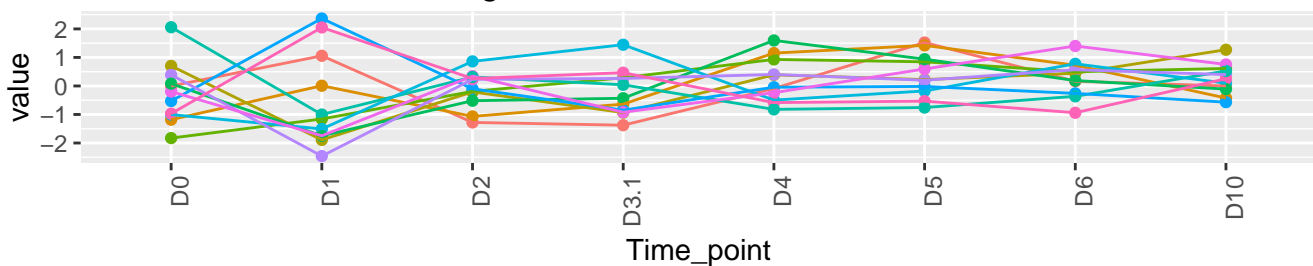
## 15 genes – EC\_KO-standardized



## 13 genes – FAP\_WT-standardized



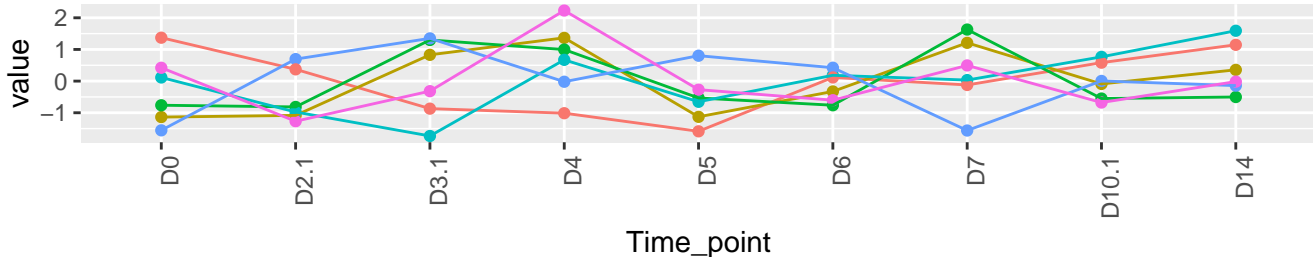
## 11 genes – FAP\_KO-standardized



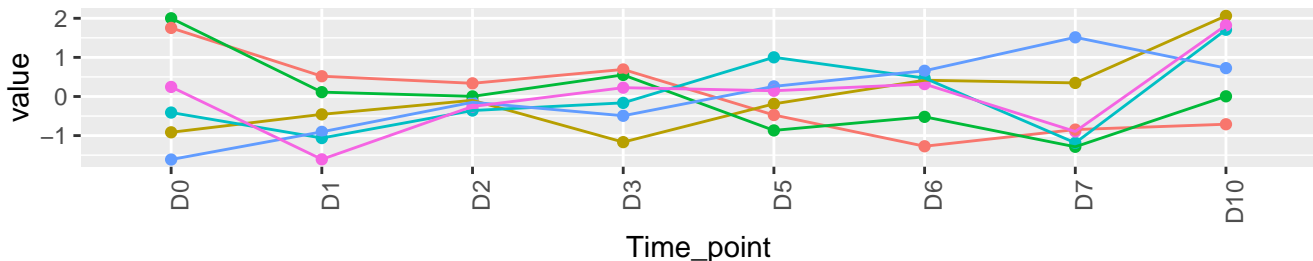


# Natural killer cell mediated cytotoxicity.Ptpn11-20;21

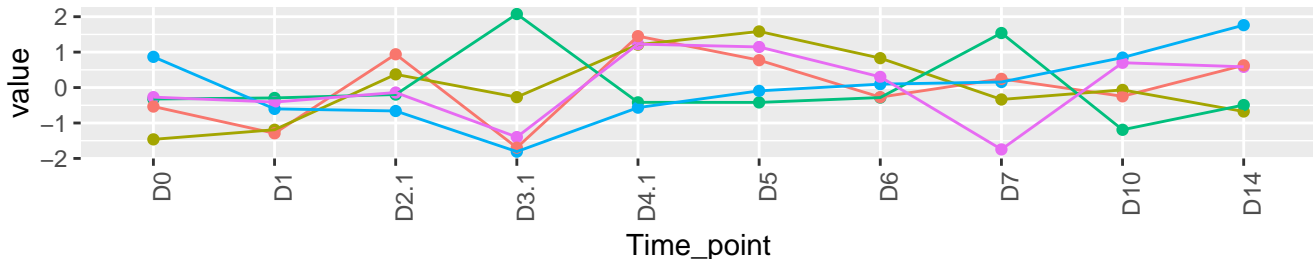
## 6 genes – EC\_WT-standardized



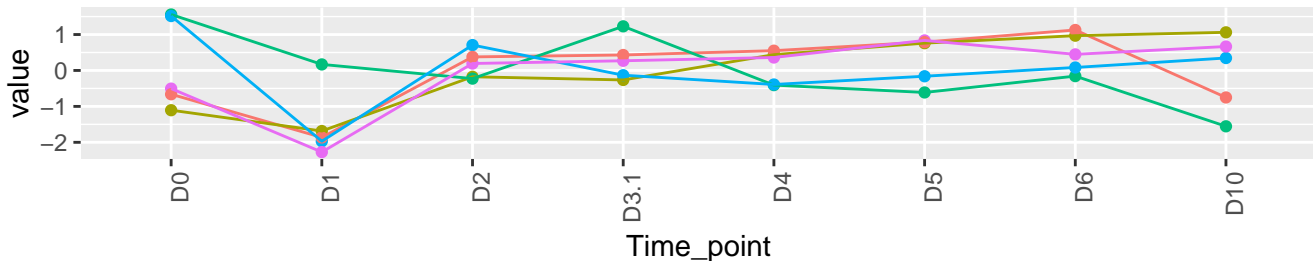
## 6 genes – EC\_KO-standardized



## 5 genes – FAP\_WT-standardized

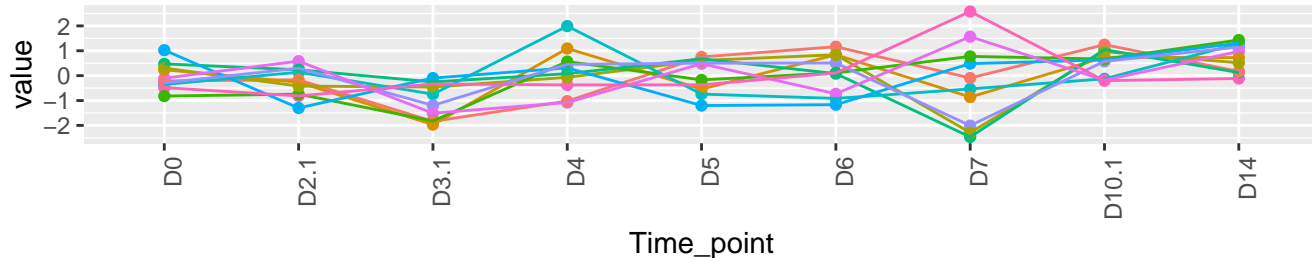


## 5 genes – FAP\_KO-standardized

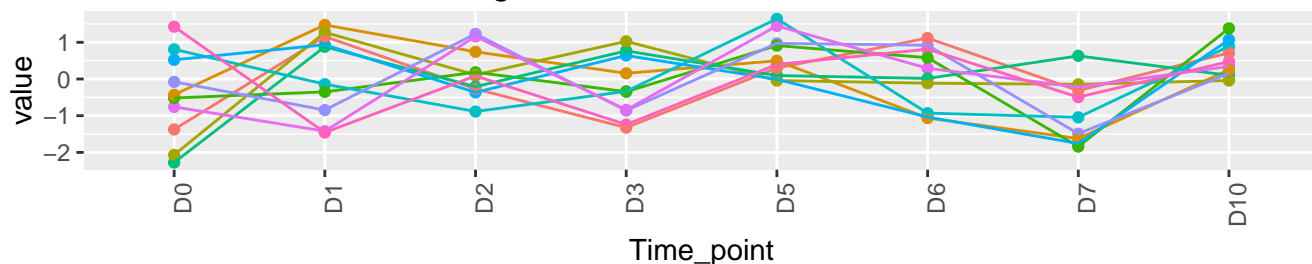


# Focal adhesion.Pten-1;37

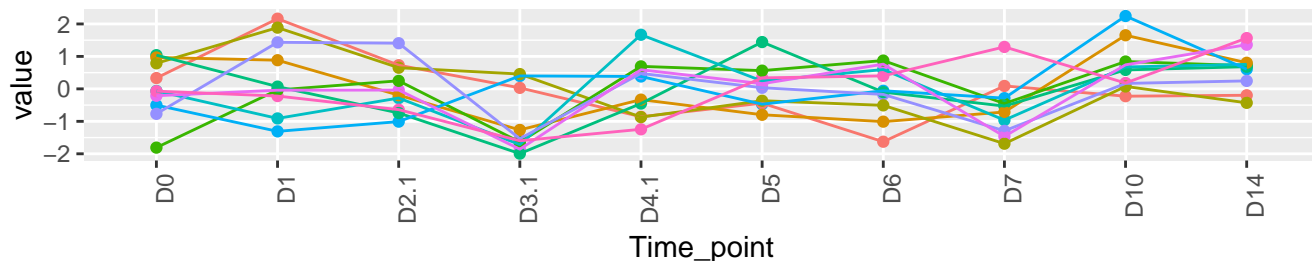
## 10 genes – EC\_WT-standardized



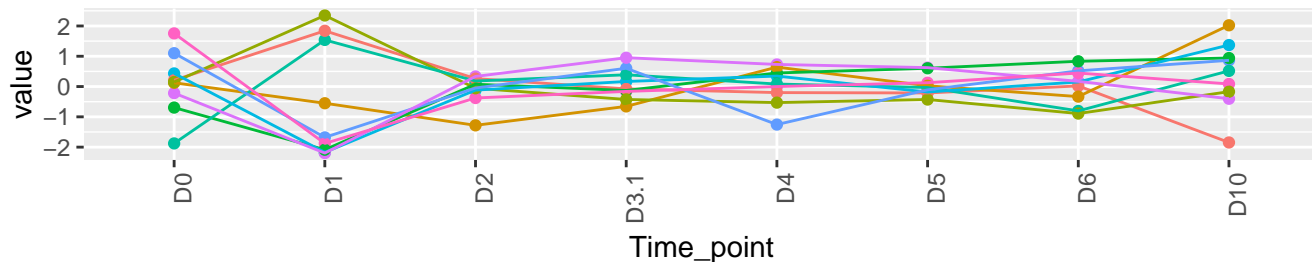
## 10 genes – EC\_KO-standardized



## 10 genes – FAP\_WT-standardized

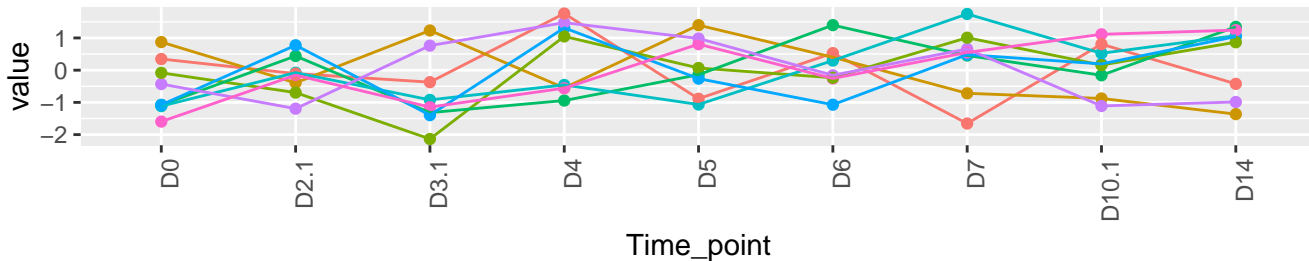


## 9 genes – FAP\_KO-standardized

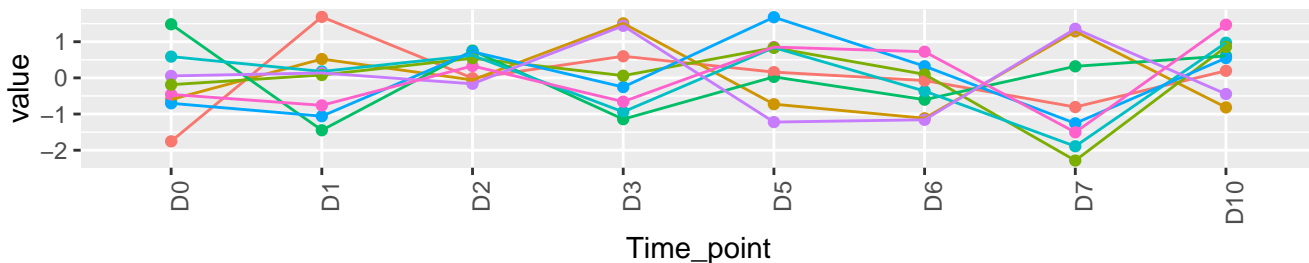


# Regulation of lipolysis in adipocytes

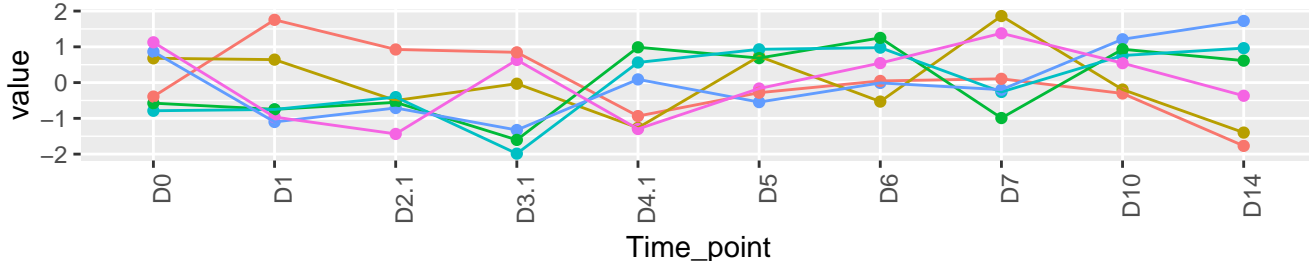
## 8 genes – EC\_WT-standardized



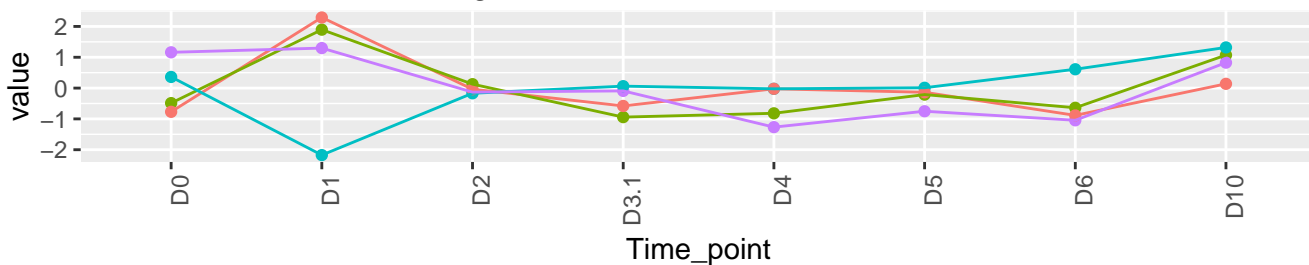
## 8 genes – EC\_KO-standardized



## 6 genes – FAP\_WT-standardized

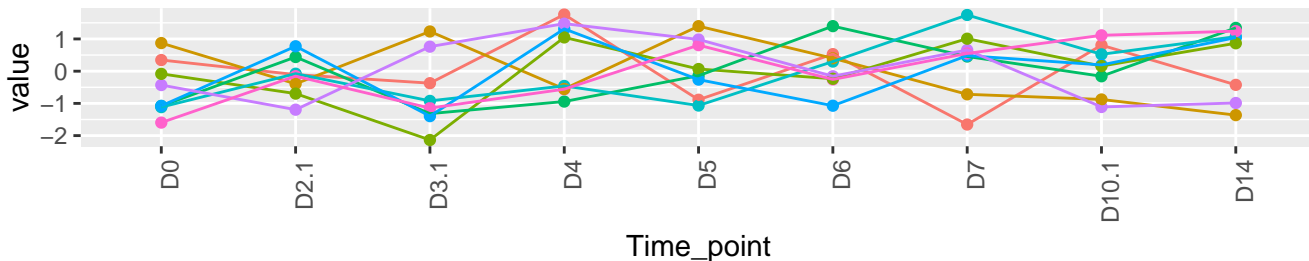


## 4 genes – FAP\_KO-standardized

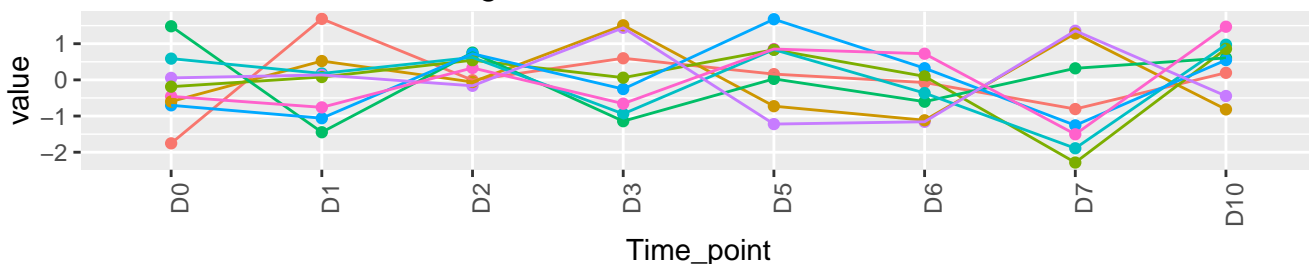


# Chagas disease (American trypanosomiasis).Tlr4-2;4

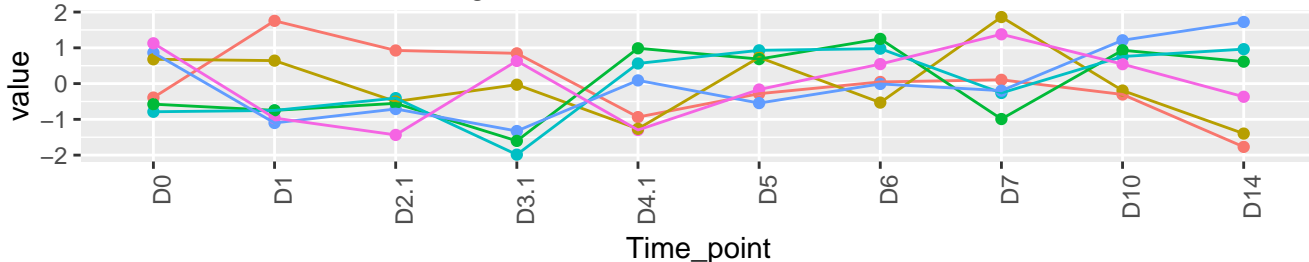
## 8 genes – EC\_WT-standardized



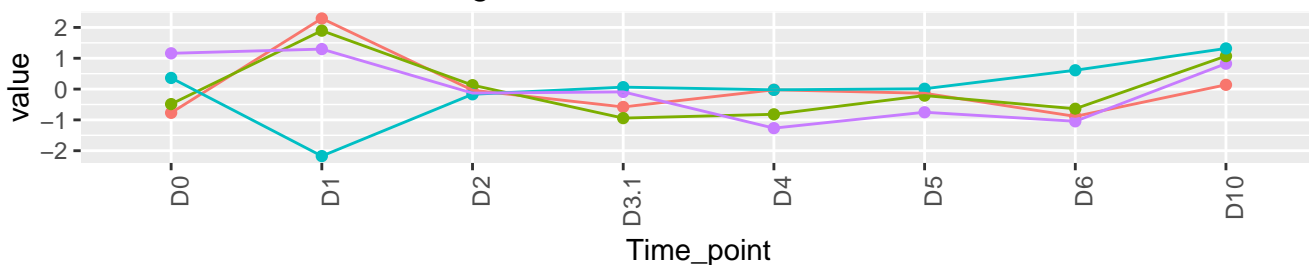
## 8 genes – EC\_KO-standardized



## 6 genes – FAP\_WT-standardized

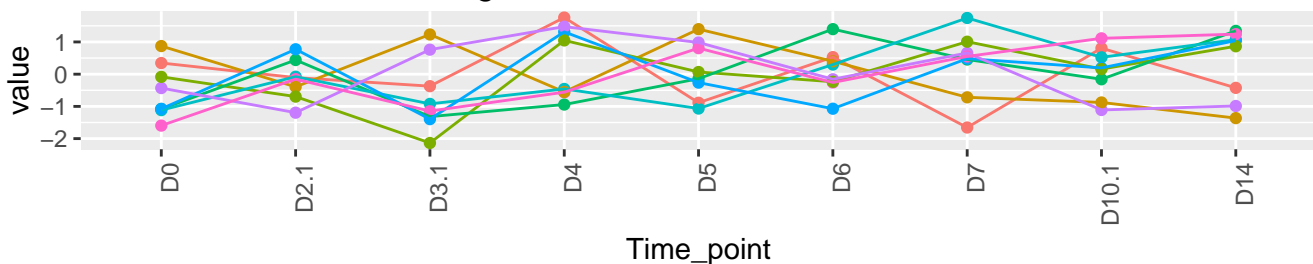


## 4 genes – FAP\_KO-standardized

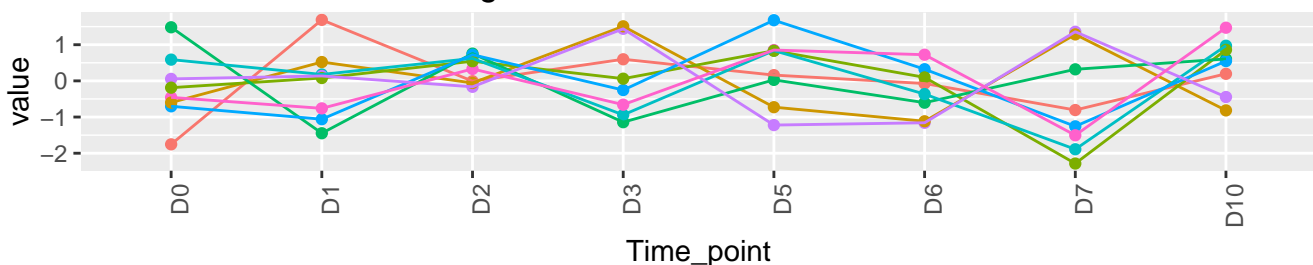


# Carbohydrate digestion and absorption

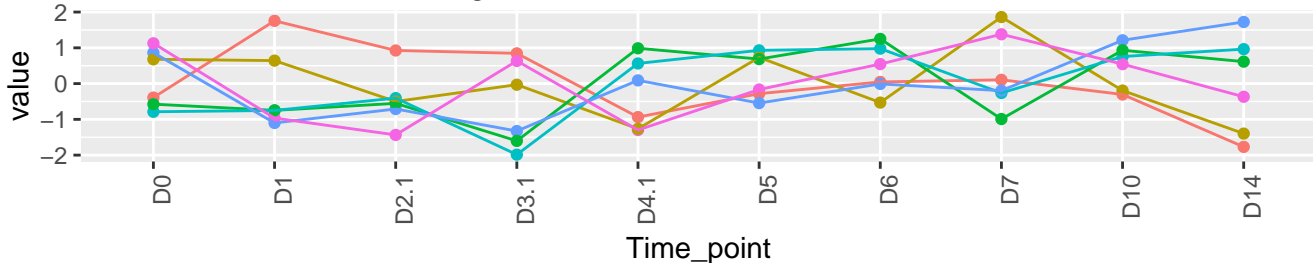
## 8 genes – EC\_WT-standardized



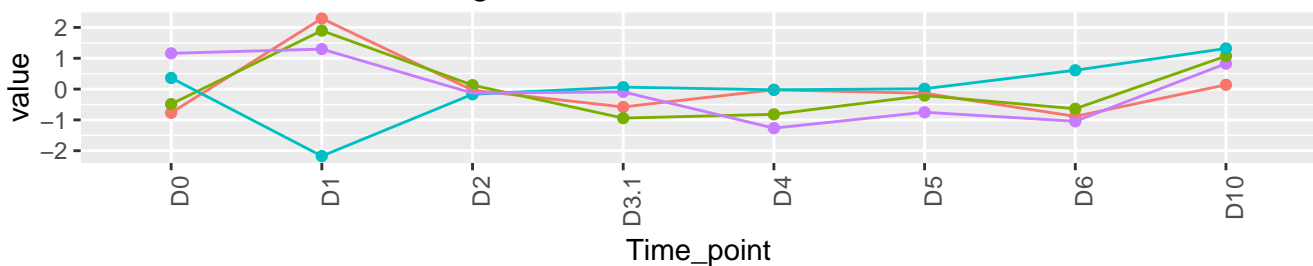
## 8 genes – EC\_KO-standardized



## 6 genes – FAP\_WT-standardized

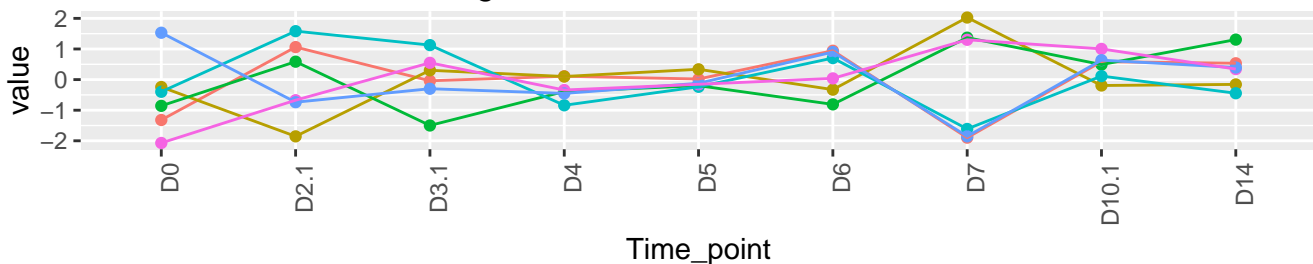


## 4 genes – FAP\_KO-standardized

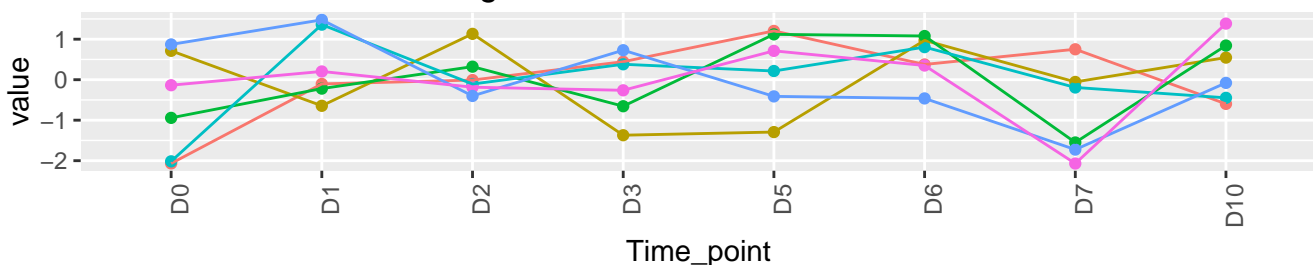


# Toxoplasmosis.Lama5-16;19

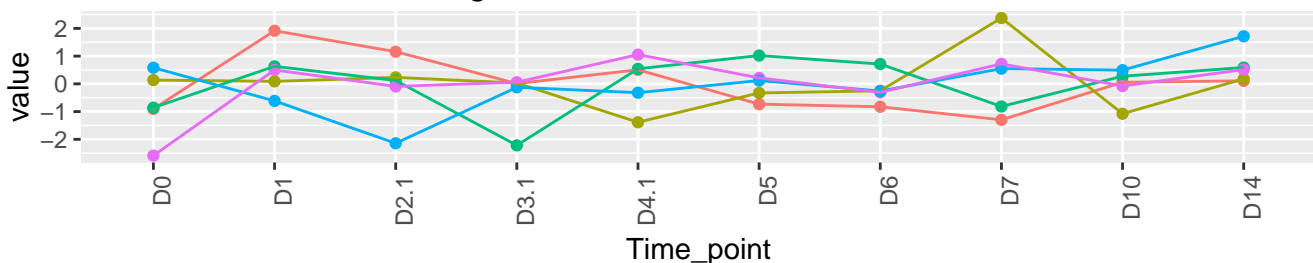
## 6 genes – EC\_WT-standardized



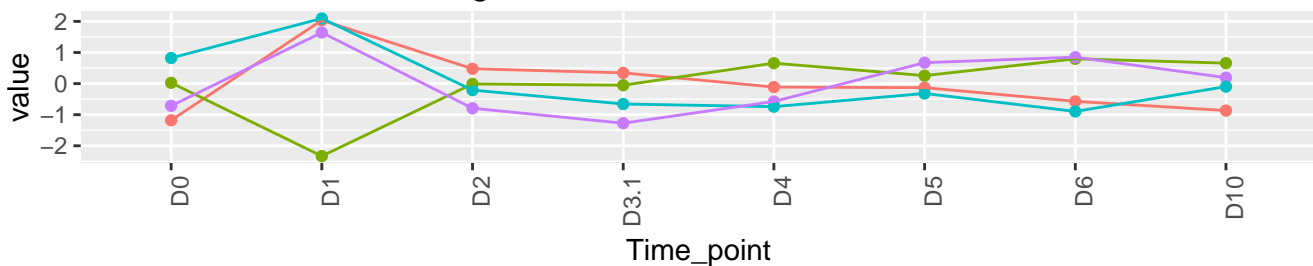
## 6 genes – EC\_KO-standardized



## 5 genes – FAP\_WT-standardized

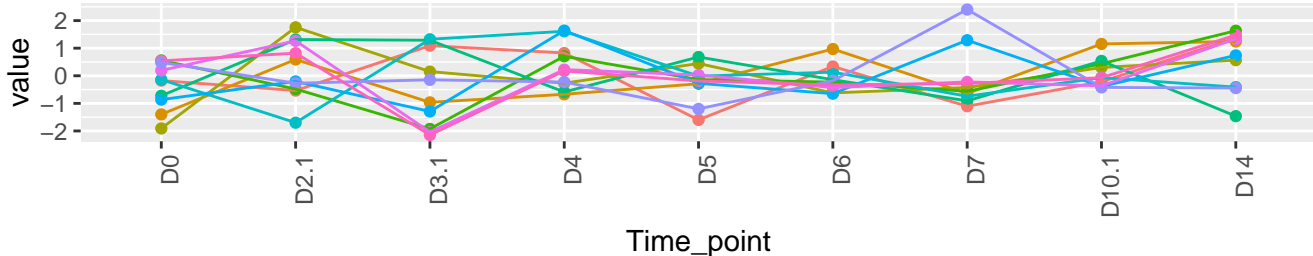


## 4 genes – FAP\_KO-standardized

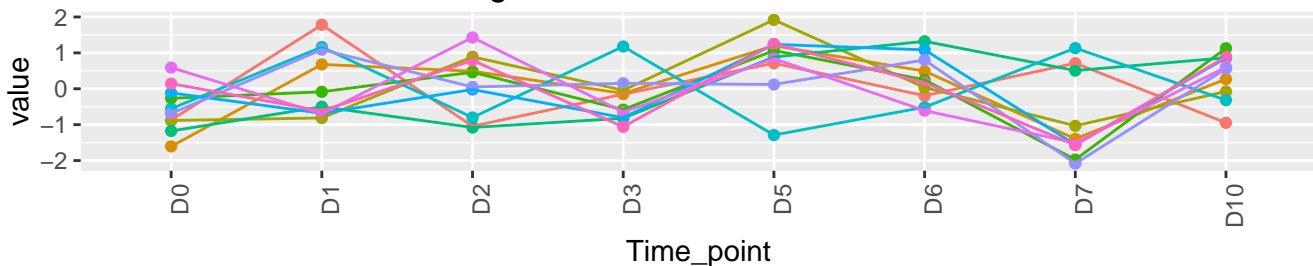


# Platelet activation.F2rl3-1;21

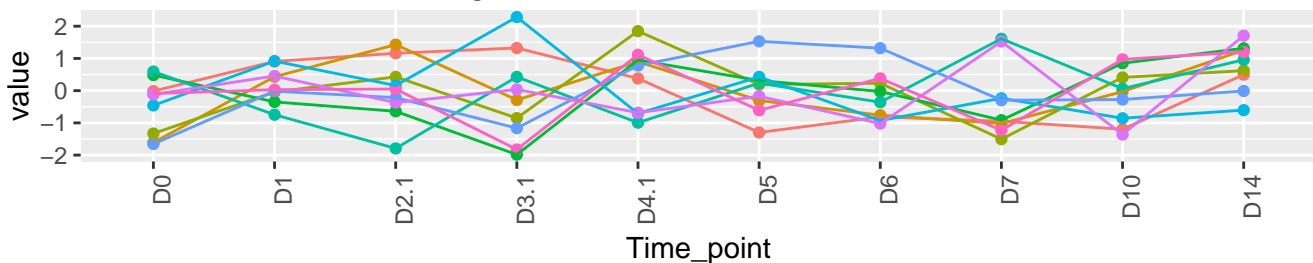
## 10 genes – EC\_WT-standardized



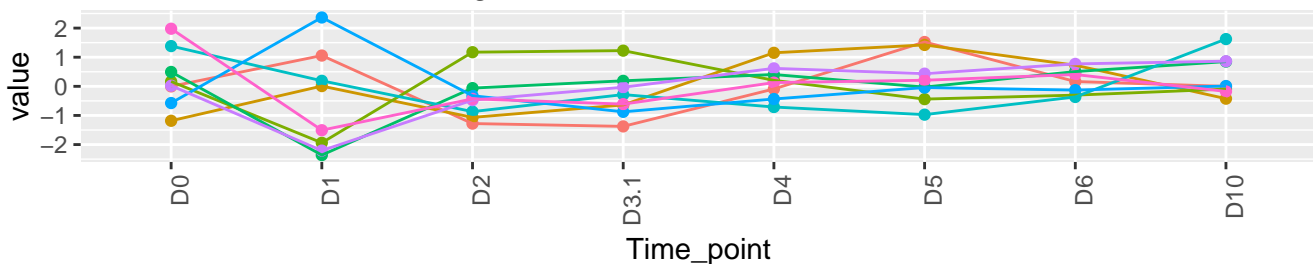
## 10 genes – EC\_KO-standardized



## 9 genes – FAP\_WT-standardized



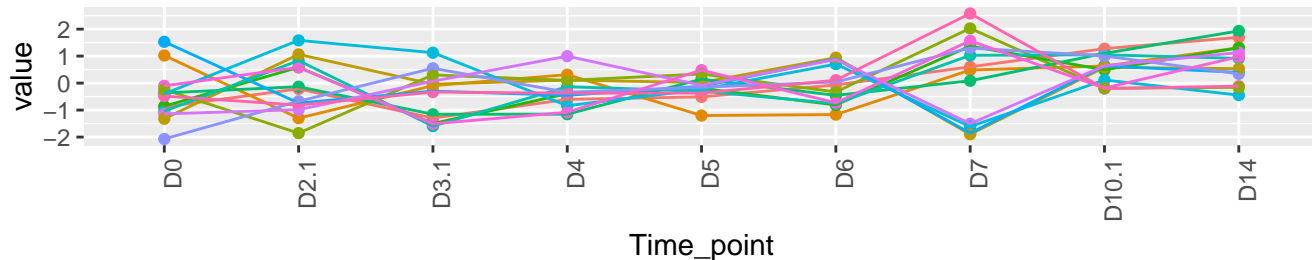
## 8 genes – FAP\_KO-standardized



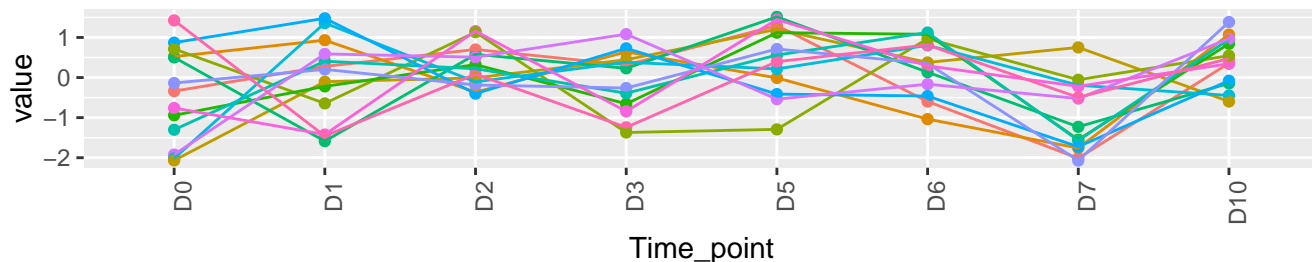


# Toll-like receptor signaling pathway.Map3k8-1;8

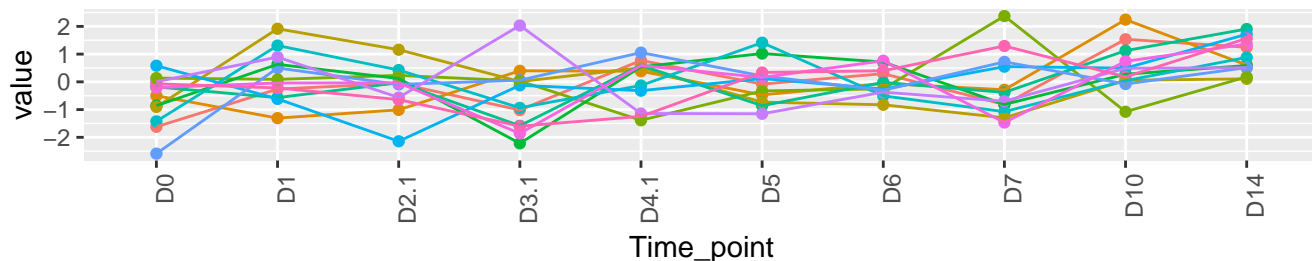
## 13 genes – EC\_WT-standardized



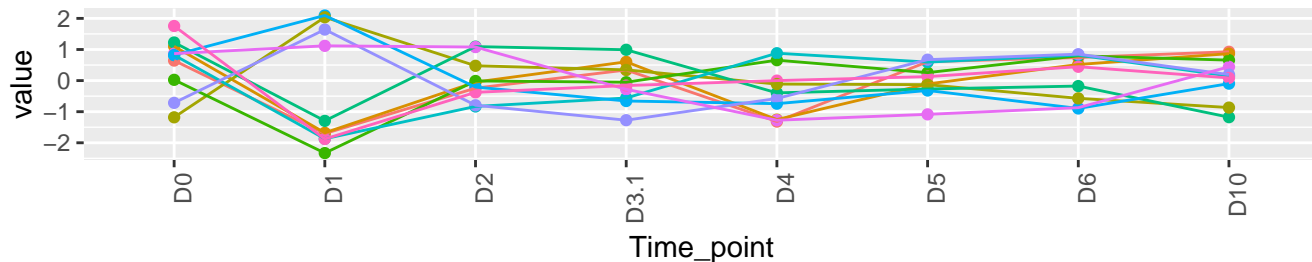
## 13 genes – EC\_KO-standardized



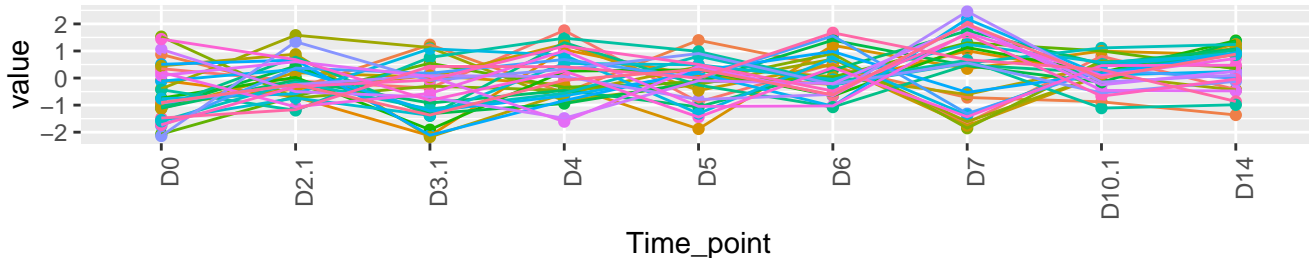
## 12 genes – FAP\_WT-standardized



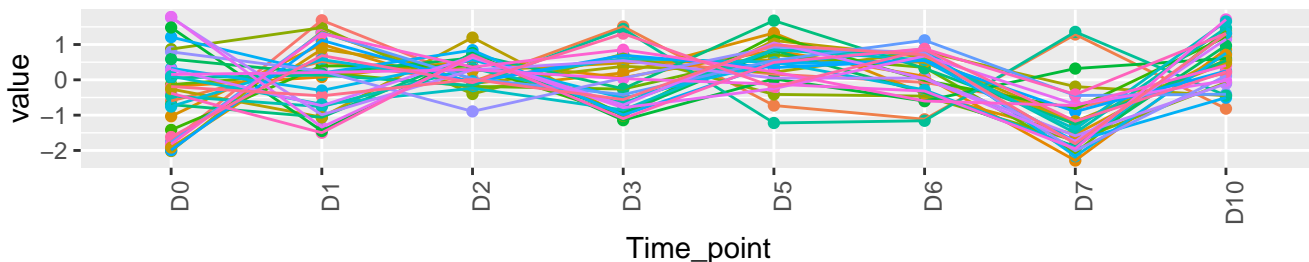
## 10 genes – FAP\_KO-standardized



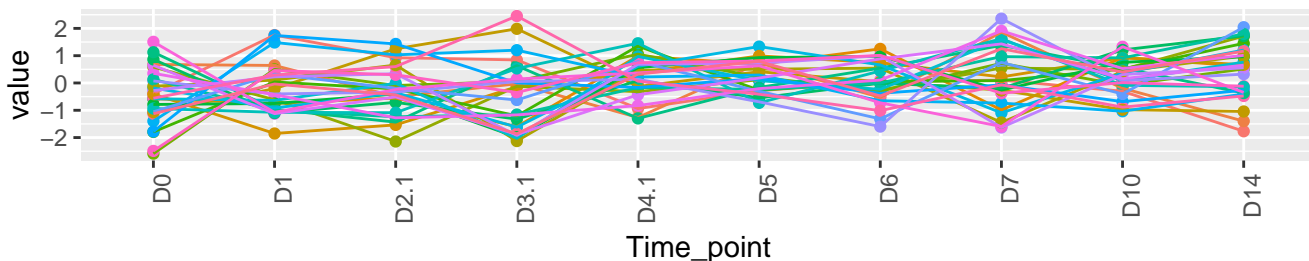
Springolipid signaling pathway  
29 genes – EC\_WT-standardized



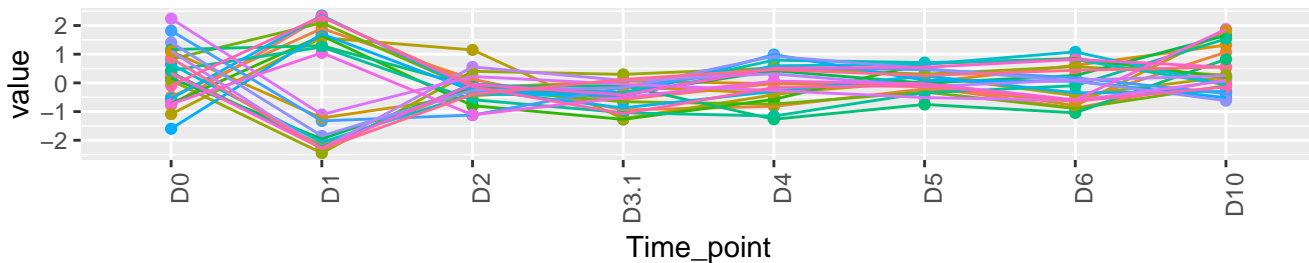
30 genes – EC\_KO-standardized



27 genes – FAP\_WT-standardized

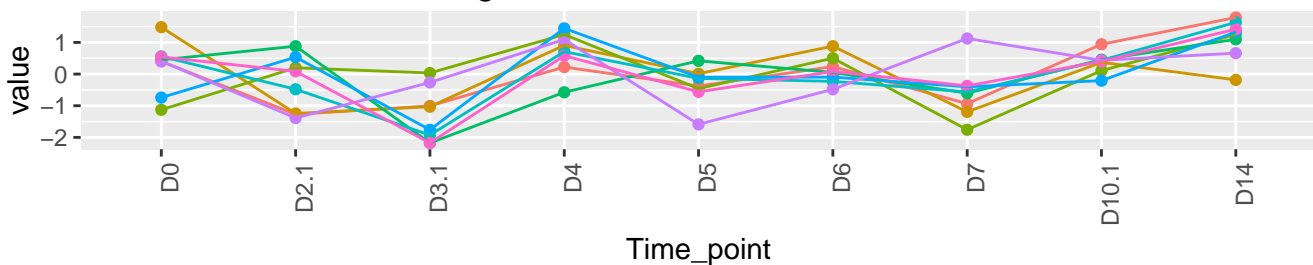


23 genes – FAP\_KO-standardized

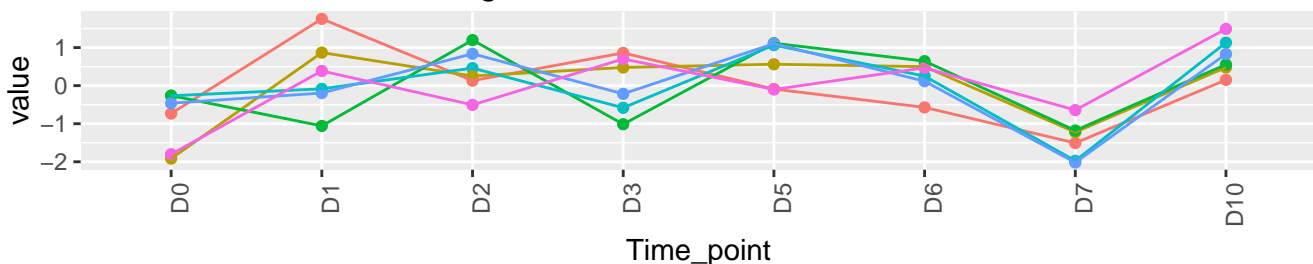


# Chagas disease (American trypanosomiasis).Tlr4-22;25

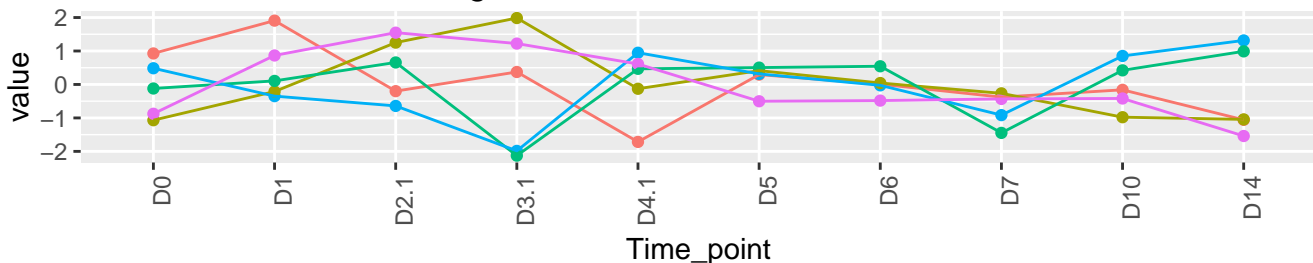
## 8 genes – EC\_WT-standardized



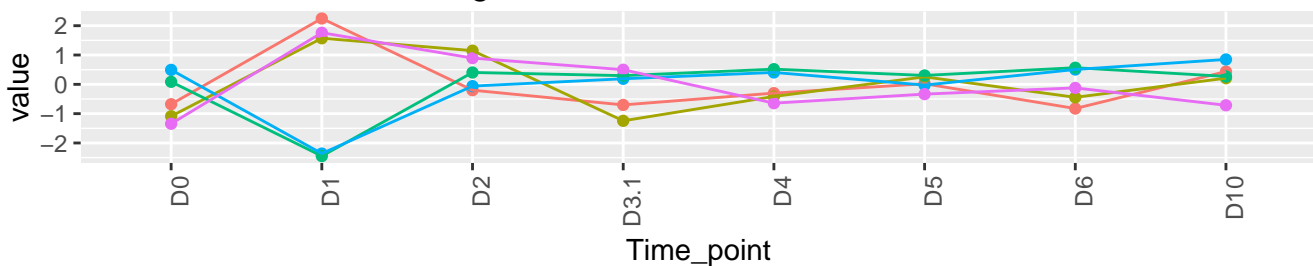
## 6 genes – EC\_KO-standardized



## 5 genes – FAP\_WT-standardized

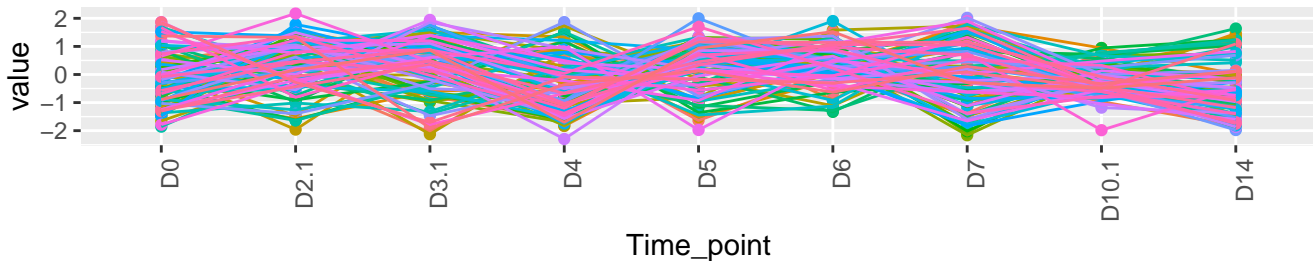


## 5 genes – FAP\_KO-standardized

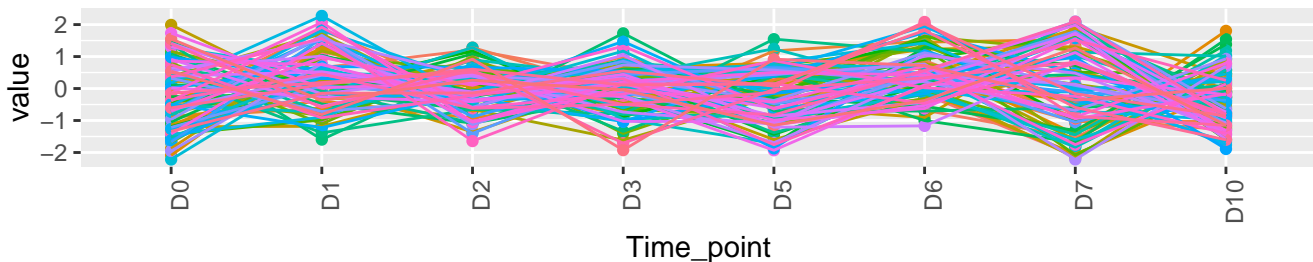


# Purine metabolism

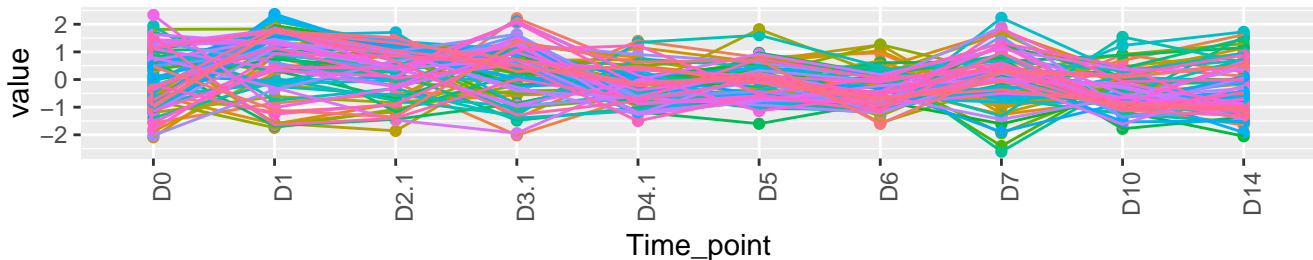
## 86 genes – EC\_WT-standardized



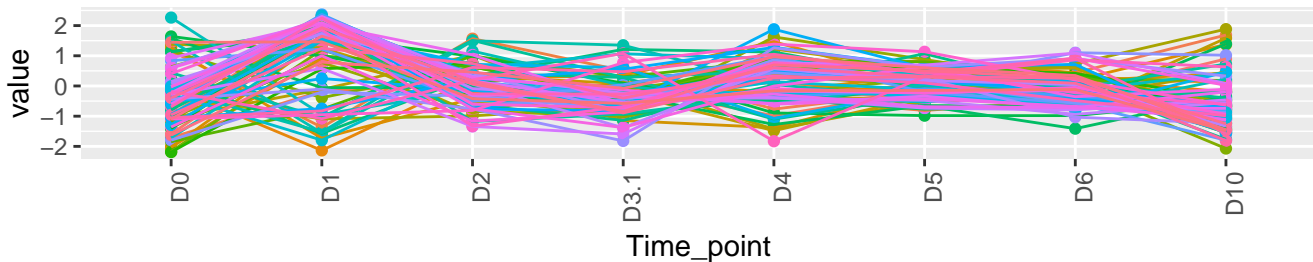
## 83 genes – EC\_KO-standardized



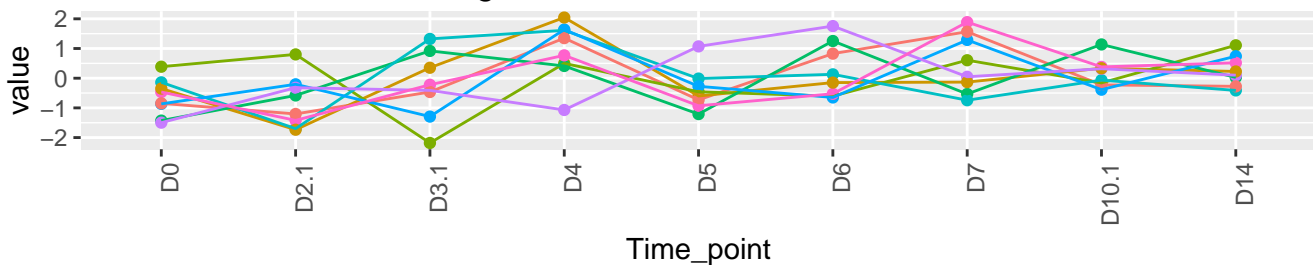
## 78 genes – FAP\_WT-standardized



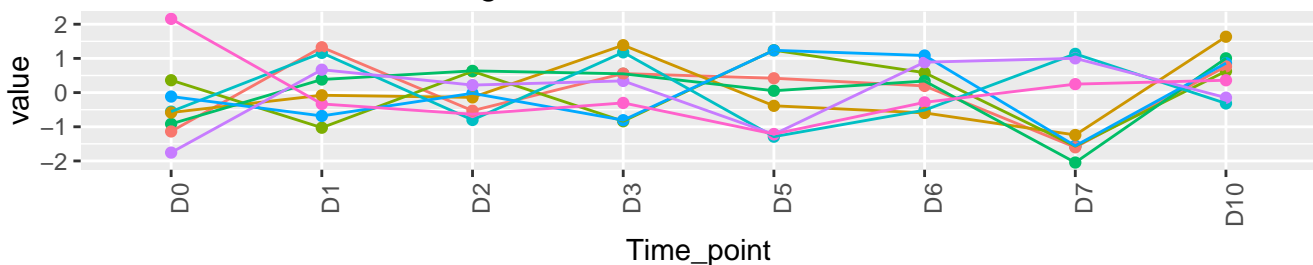
## 78 genes – FAP\_KO-standardized



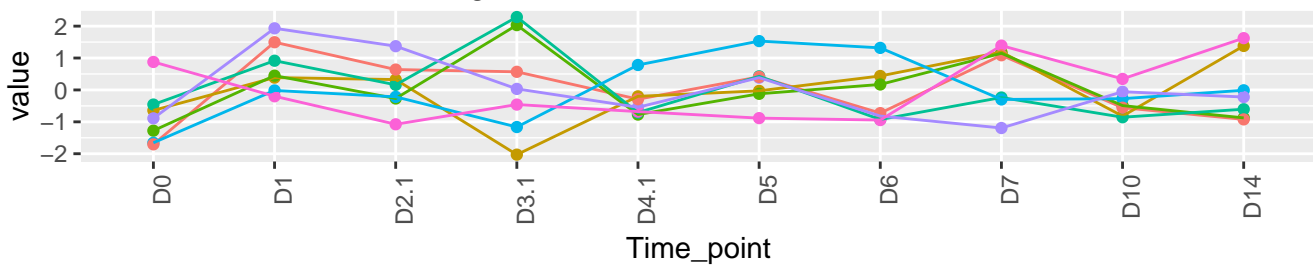
Glucagon signaling pathway  
8 genes – EC\_WT-standardized



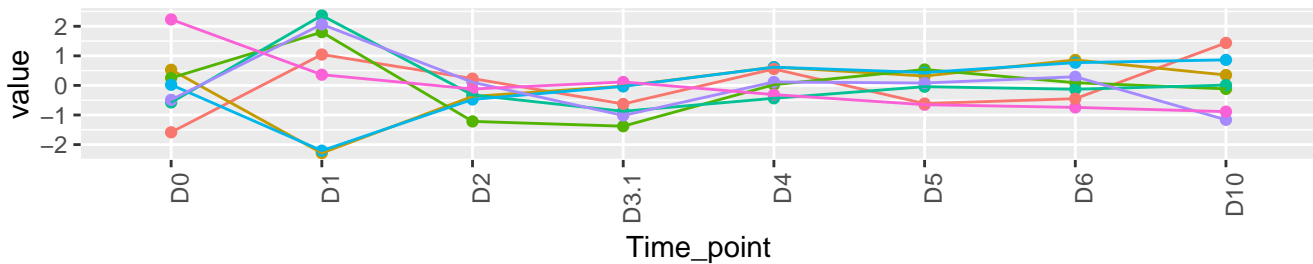
8 genes – EC\_KO-standardized



7 genes – FAP\_WT-standardized

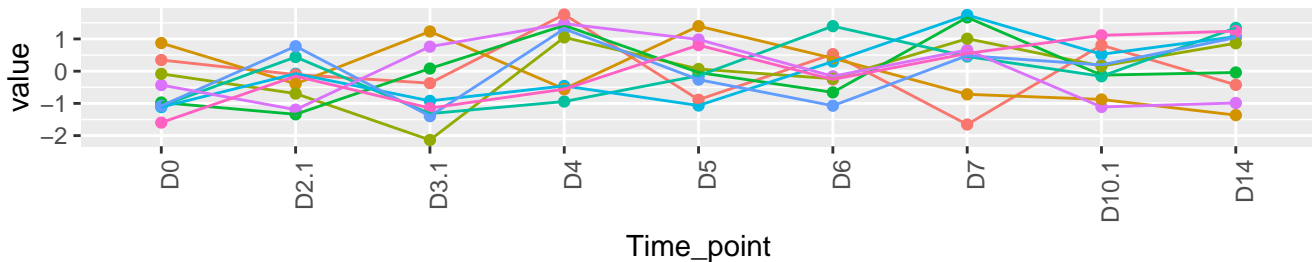


7 genes – FAP\_KO-standardized

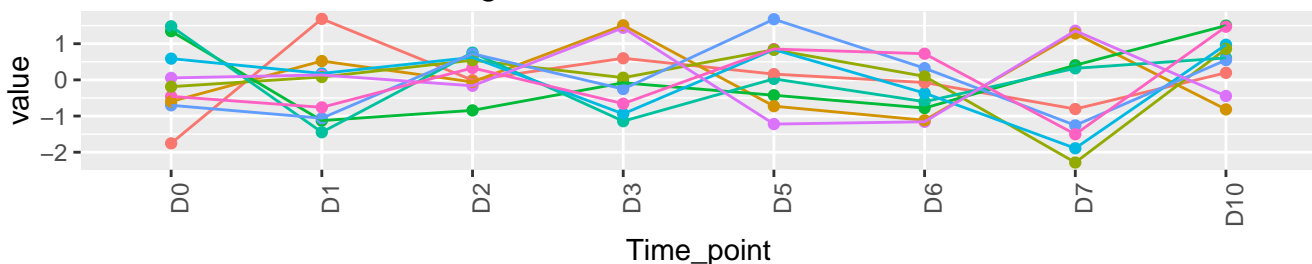


# Renal cell carcinoma.Met-1;7

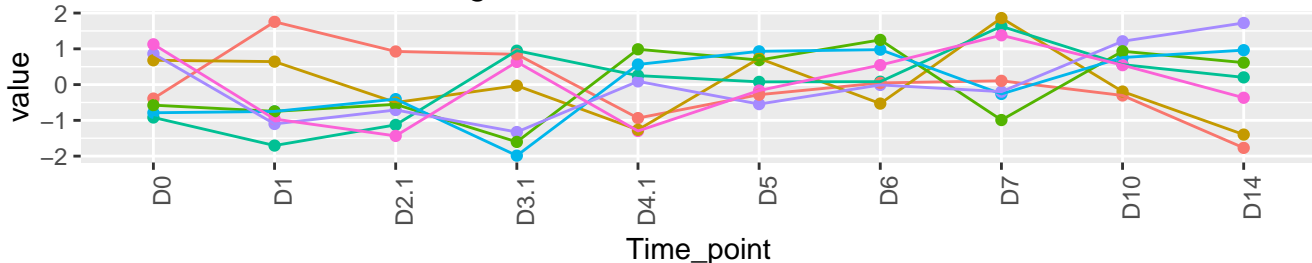
## 9 genes – EC\_WT-standardized



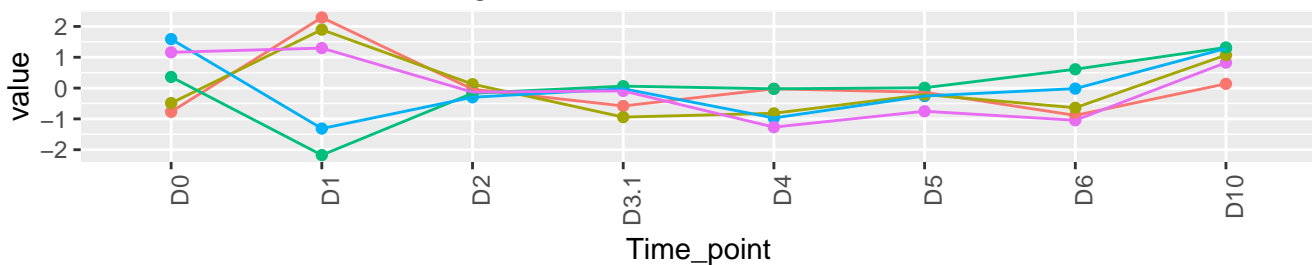
## 9 genes – EC\_KO-standardized



## 7 genes – FAP\_WT-standardized

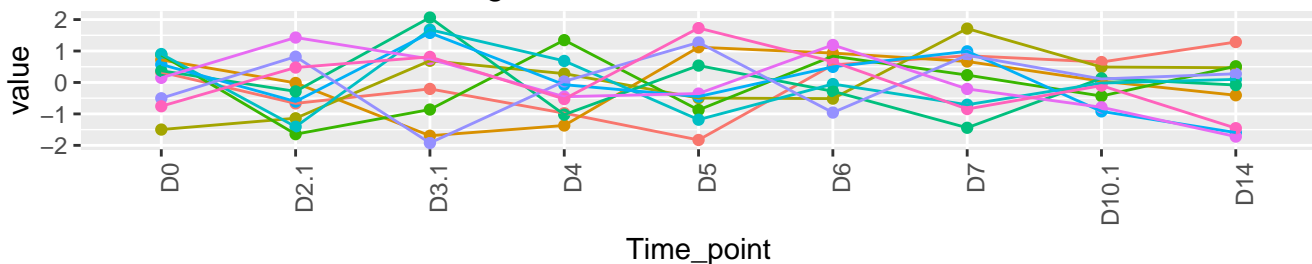


## 5 genes – FAP\_KO-standardized

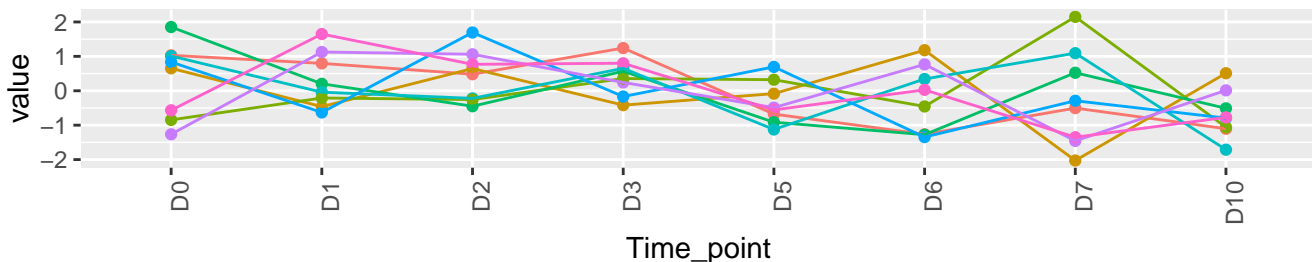


# Retinol metabolism

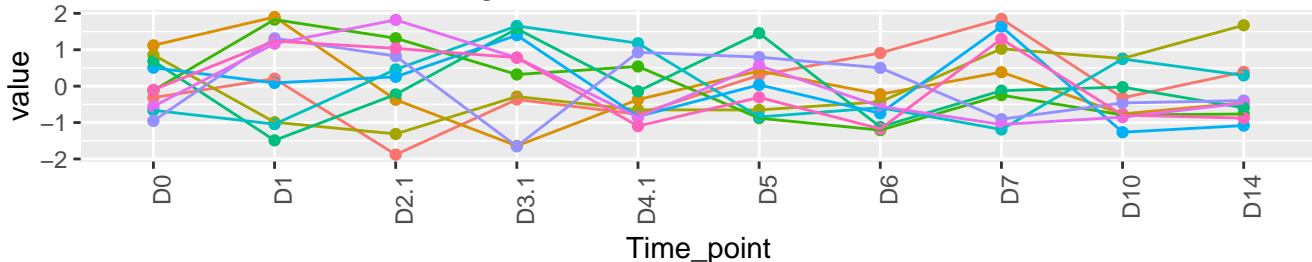
## 10 genes – EC\_WT-standardized



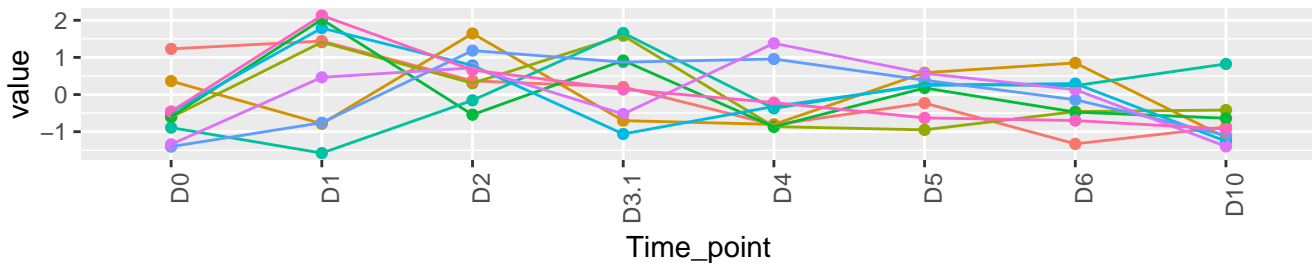
## 8 genes – EC\_KO-standardized



## 10 genes – FAP\_WT-standardized

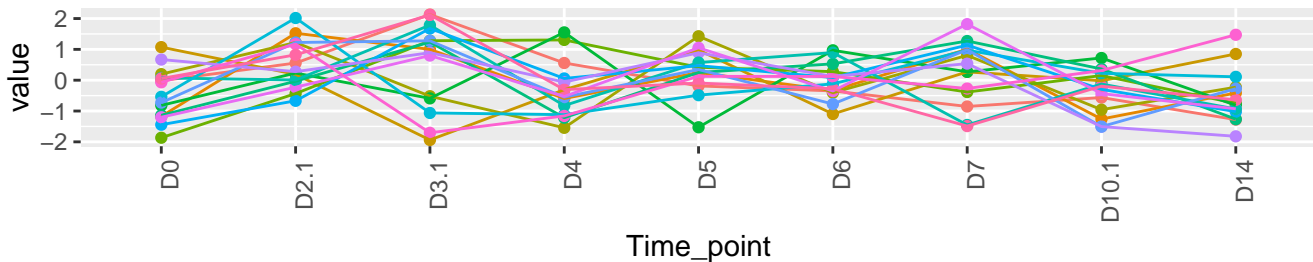


## 9 genes – FAP\_KO-standardized

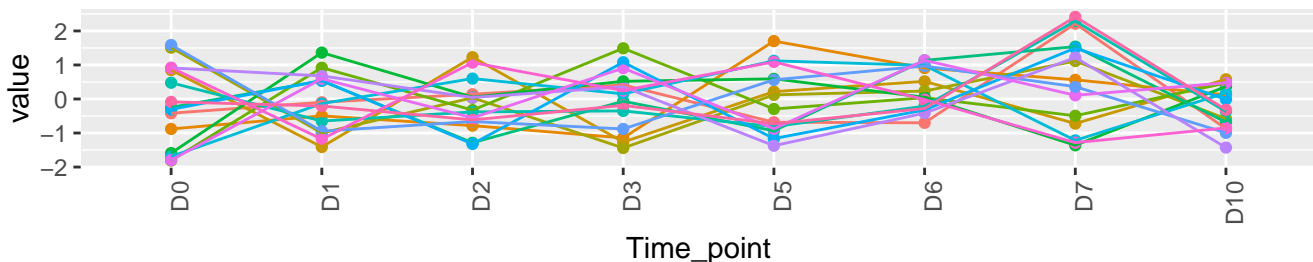


Amino sugar and nucleotide sugar metabolism.null-1;12

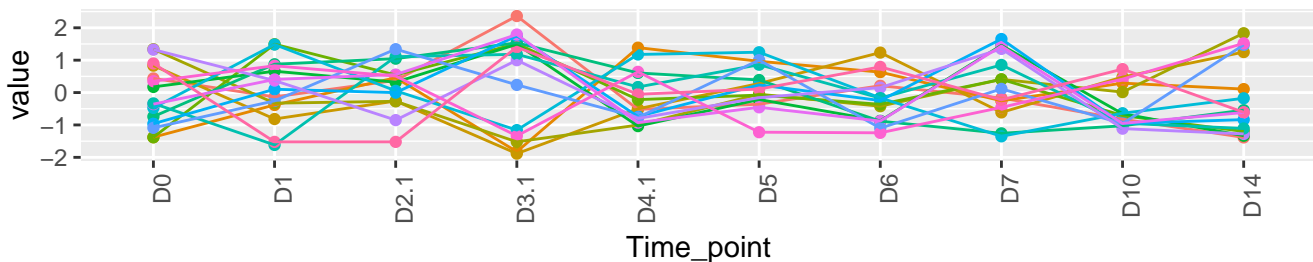
15 genes – EC\_WT-standardized



15 genes – EC\_KO-standardized



15 genes – FAP\_WT-standardized



14 genes – FAP\_KO-standardized

