

Additional File 2:

Gene expression profiling of long-lived dwarf mice:
longevity-associated genes and relationships with diet,
gender and aging

William R. Swindell

This file displays expression response profiles for the top 40 genes most negatively associated with IGF-1 induction patterns among all contrasts examined in this study (see Fig. 2 of paper). These genes are listed on pages 2-3 and plotted individually on pages 4-43 of this file. In each plot, the black line represents the IGF-1 induction pattern among contrasts, and the green line represents the pattern associated with a gene that exhibits an opposite induction pattern. Genes were selected by reflecting the induction pattern of IGF-1 about the zero horizontal, and finding genes with an induction pattern most similar to the IGF-1 reflection. Genes are presented in order of decreasing similarity to the IGF-1 reflection. Following appropriate normalization to weight all contrasts equally, similarity was determined based on Euclidean distance.

Contact: William R. Swindell, wswindel@med.umich.edu

Symbol	Affymetrix ID	Distance
Scd2	95758_at	11.871
Slc16a7	95060_at	14.232
Pcp4l1	97297_at	14.391
Dclre1a	104230_at	14.772
Igfbp1	103896_f_at	15.477
Spink3	96630_at	16.421
Lpl	95611_at	16.526
Cd36	93332_at	16.714
Abcb1a	102910_at	16.773
Cyp2b10	102701_at	16.86
Serpina6	96227_at	17.151
Gstm3	97681_f_at	17.319
Abcd2	92913_at	17.697
Cyp2a4	102847_s_at	18.193
Idh3b	95693_at	18.232
Tcea3	102344_s_at	19.061
Adssl1	98435_at	19.249
Sult1a1	103087_at	19.267
Rtn4	160484_at	19.502
Gsta4	96085_at	19.634

Symbol	Affymetrix ID	Distance
Mt1	93573_at	19.77
1810015C04Rik	95518_at	19.785
Gsta2	101872_at	19.874
Robo1	103675_at	19.884
Btg1	93104_at	19.912
Rdh16	102013_at	19.991
Cyp2c38	102084_f_at	20.004
Papss2	96713_at	20.016
Defb1	100882_at	20.235
Igfbp2	98627_at	20.237
Il1rn	93871_at	20.421
Sult1d1	160537_at	20.521
Ank3	98476_at	20.632
Slc7a2	92736_at	20.742
Nqo1	94350_f_at	20.759
Tuba8	104682_at	20.768
Agt	101887_at	20.888
Ces1	103519_at	20.998
Vnn3	104181_at	21.019
Odz3	92500_at	21.041

Scd2

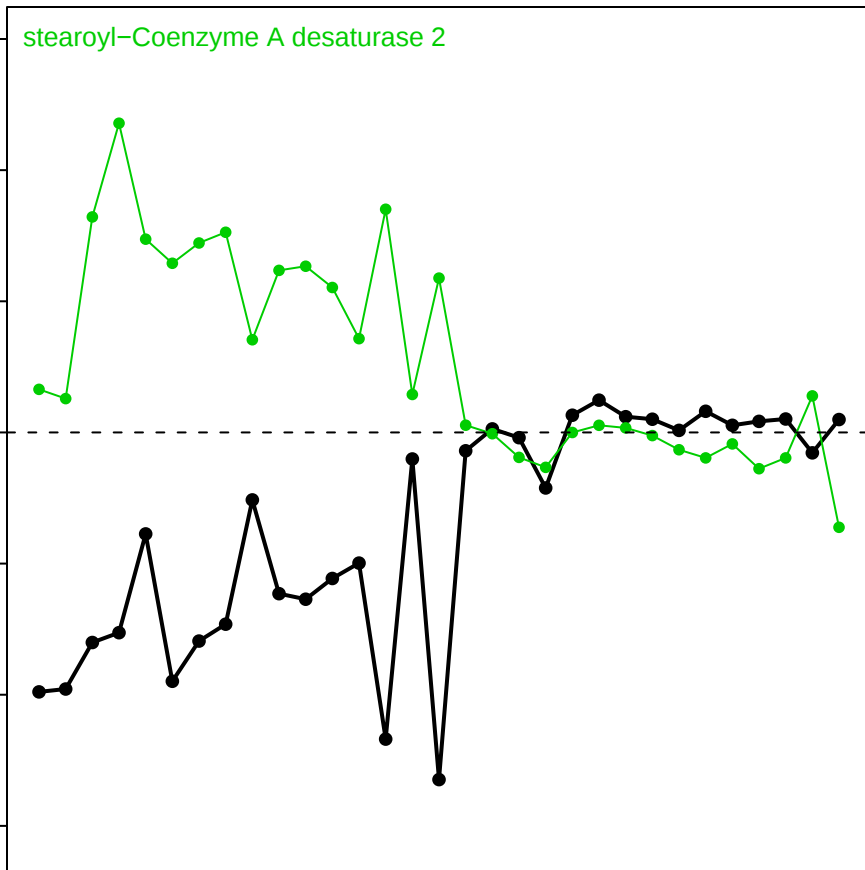
stearoyl-Coenzyme A desaturase 2

log(Fold Change)

6
4
2
0
-2
-4
-6

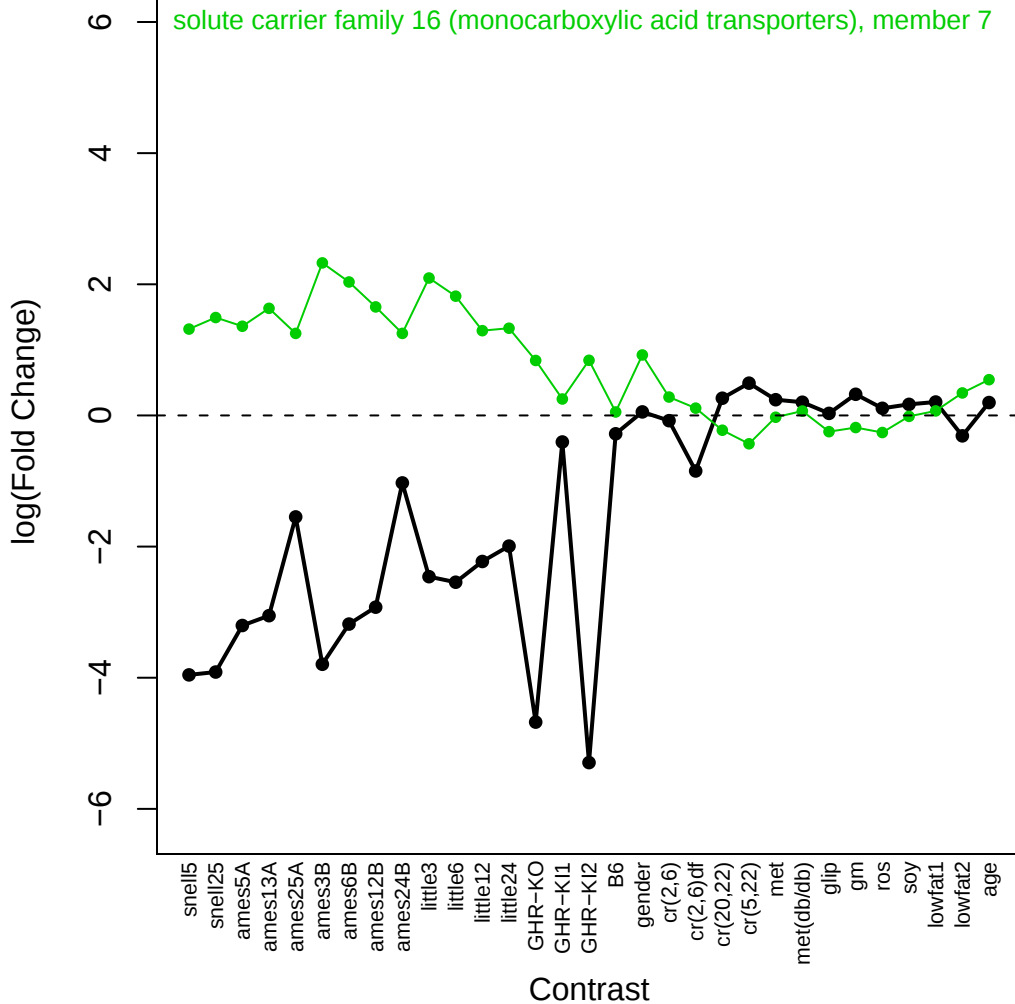
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



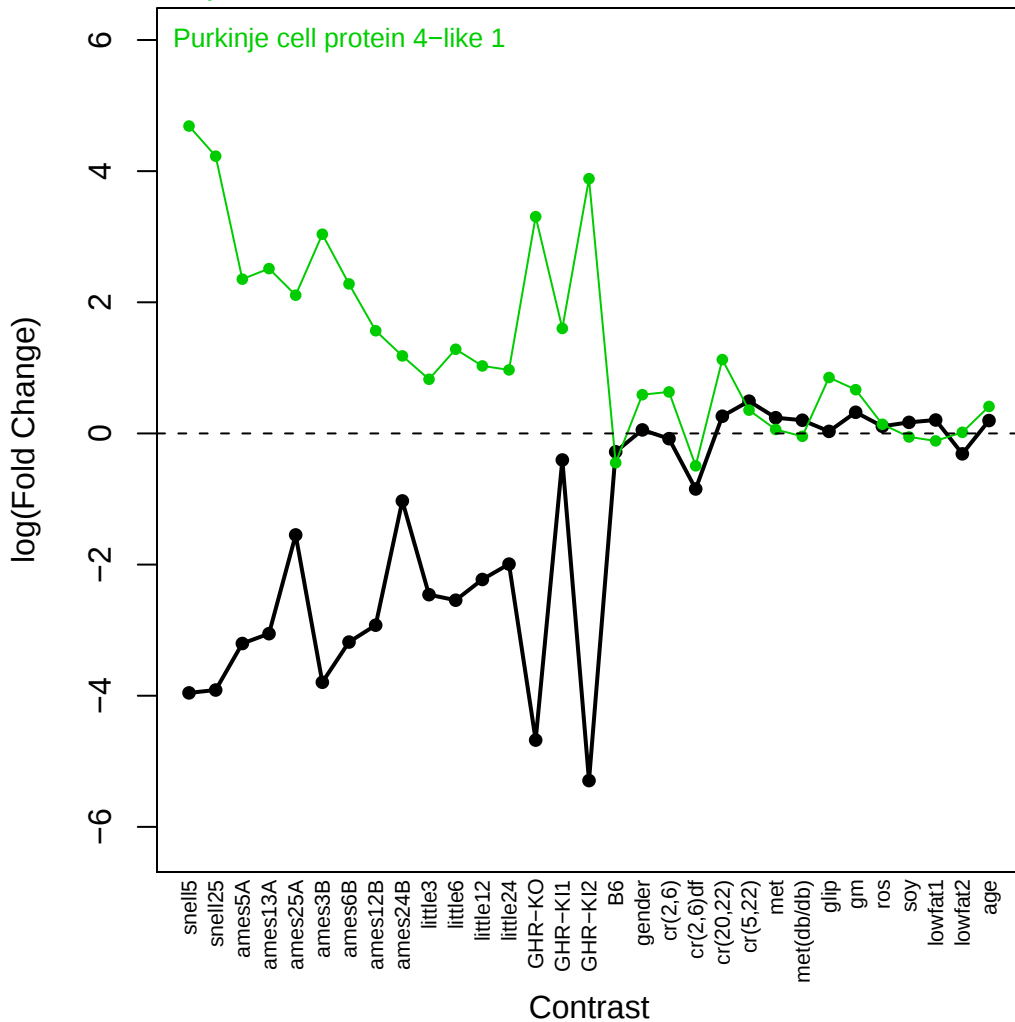
Slc16a7

solute carrier family 16 (monocarboxylic acid transporters), member 7



Pcp4l1

Purkinje cell protein 4-like 1



Dclre1a

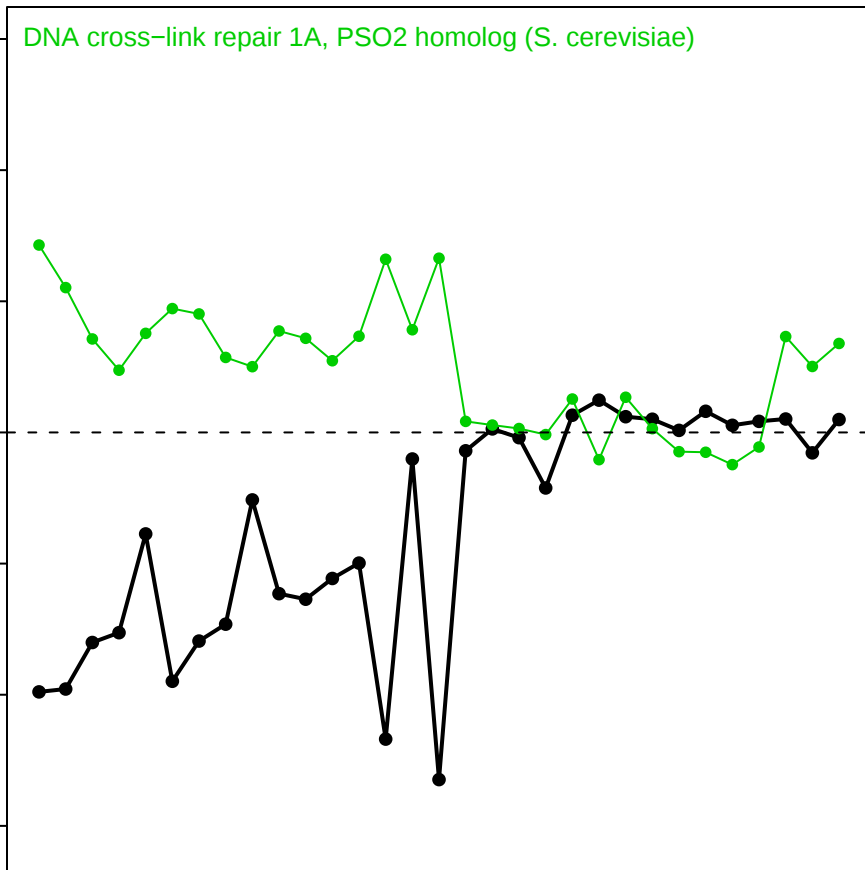
DNA cross-link repair 1A, PSO2 homolog (*S. cerevisiae*)

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Igfbp1

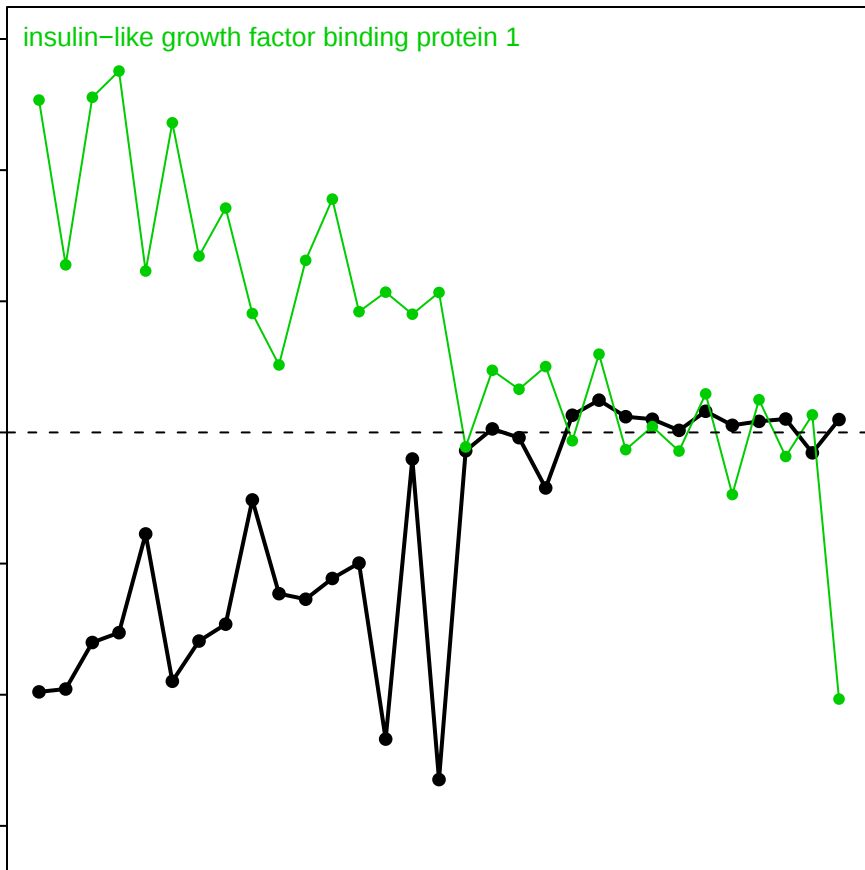
insulin-like growth factor binding protein 1

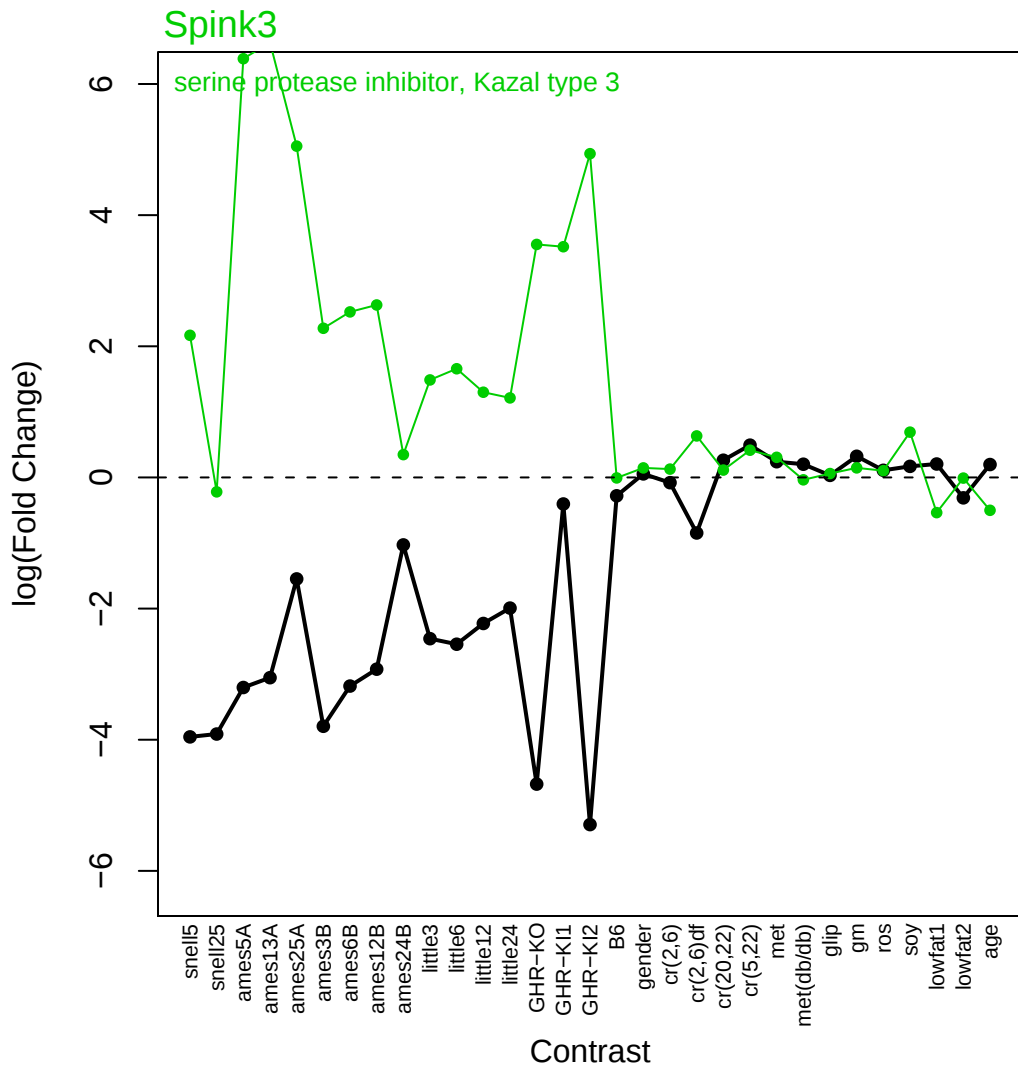
log(Fold Change)

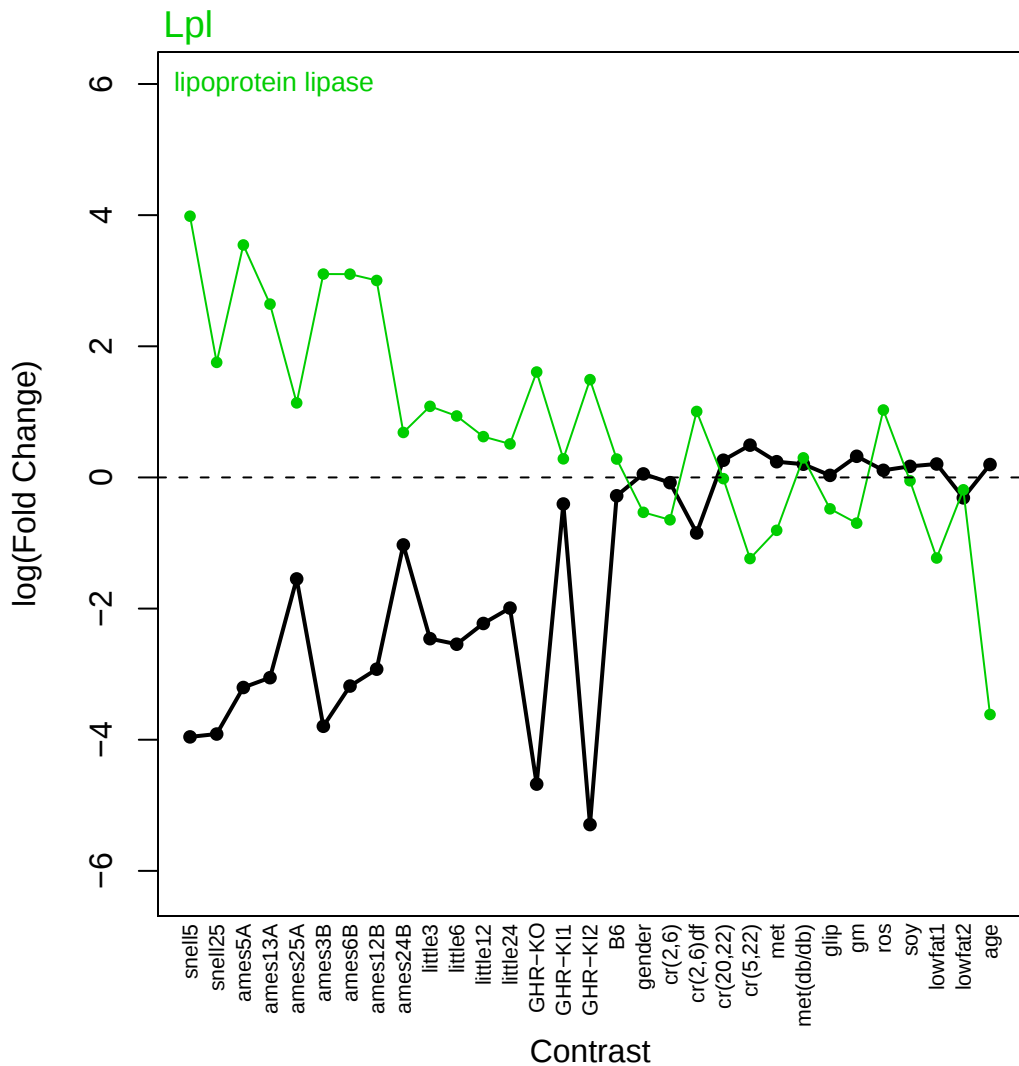
6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast







Cd36

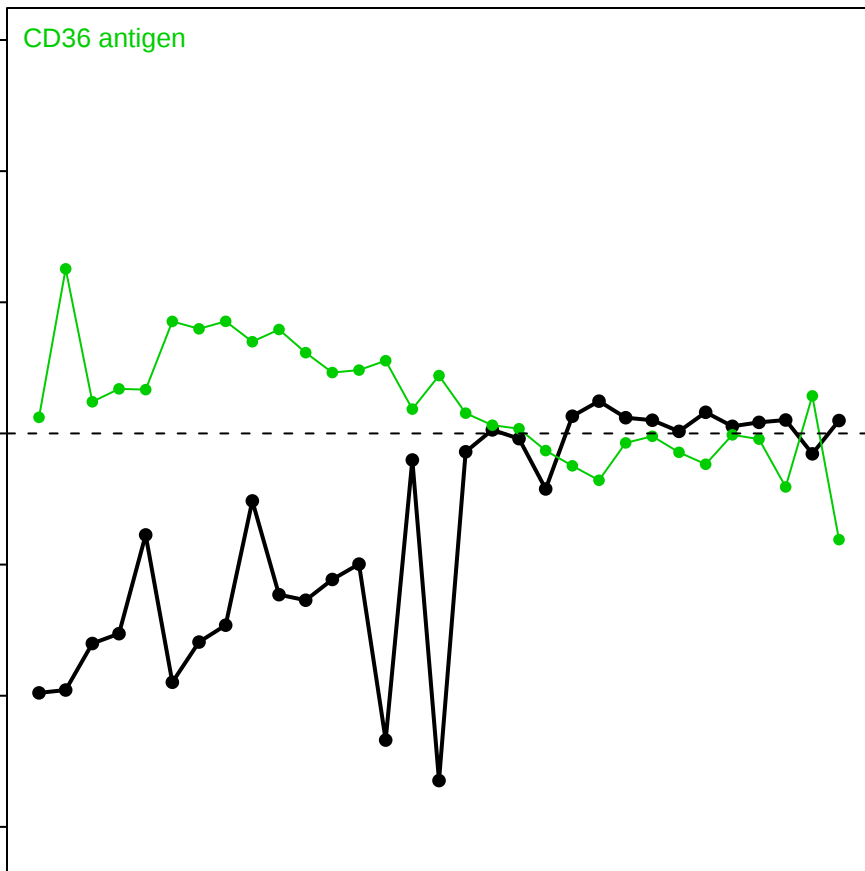
CD36 antigen

log(Fold Change)

6
4
2
0
-2
-4
-6

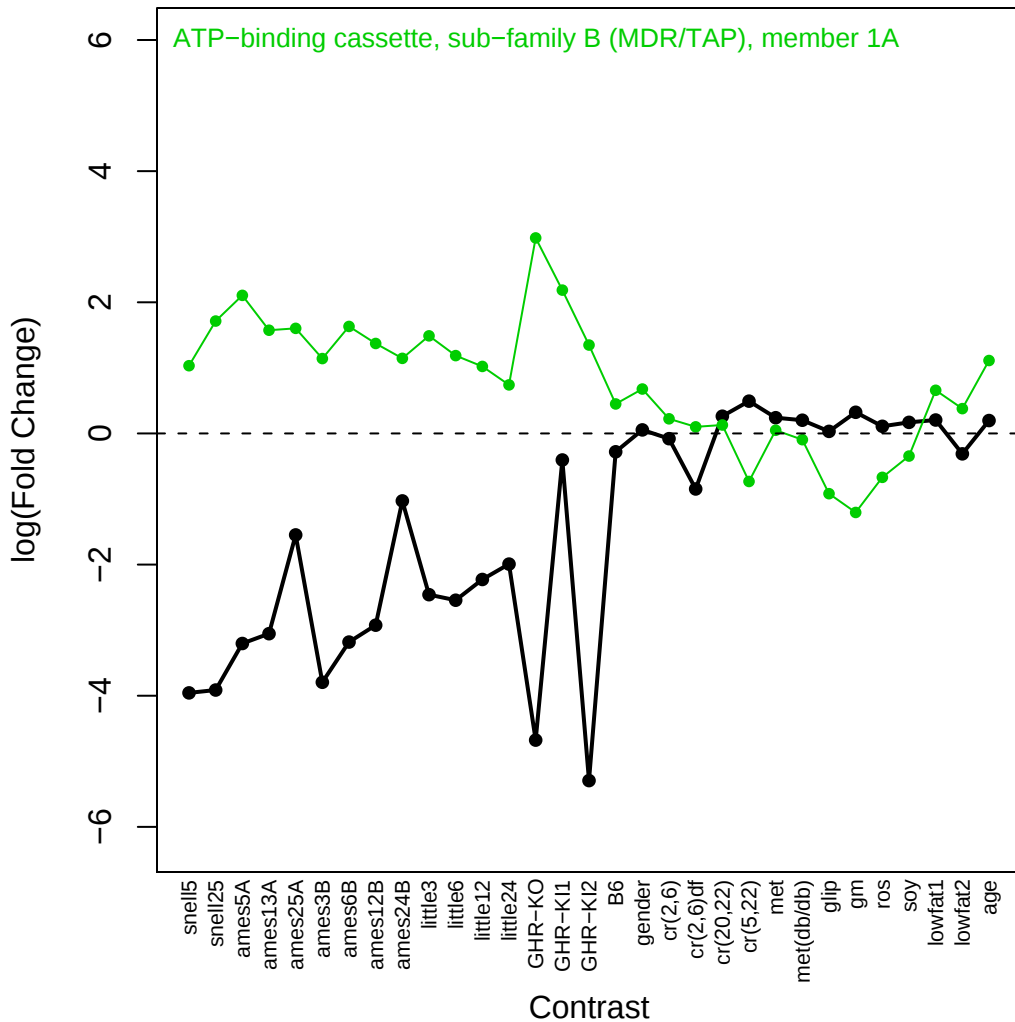
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Abcb1a

ATP-binding cassette, sub-family B (MDR/TAP), member 1A



Cyp2b10

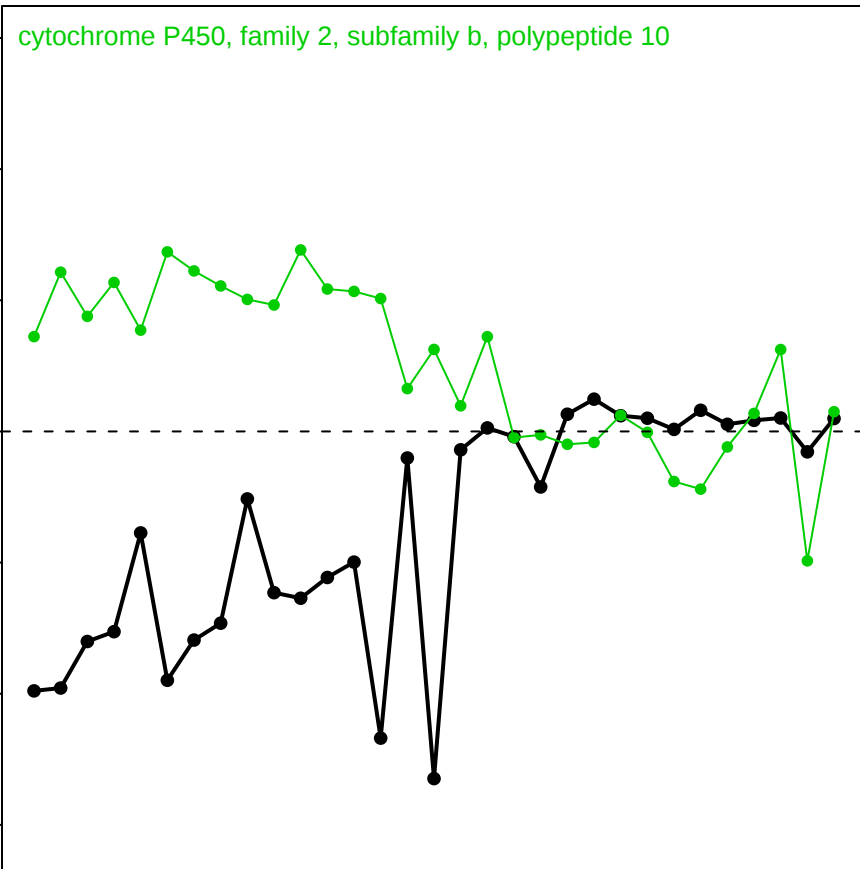
cytochrome P450, family 2, subfamily b, polypeptide 10

log(Fold Change)

6
4
2
0
-2
-4
-6

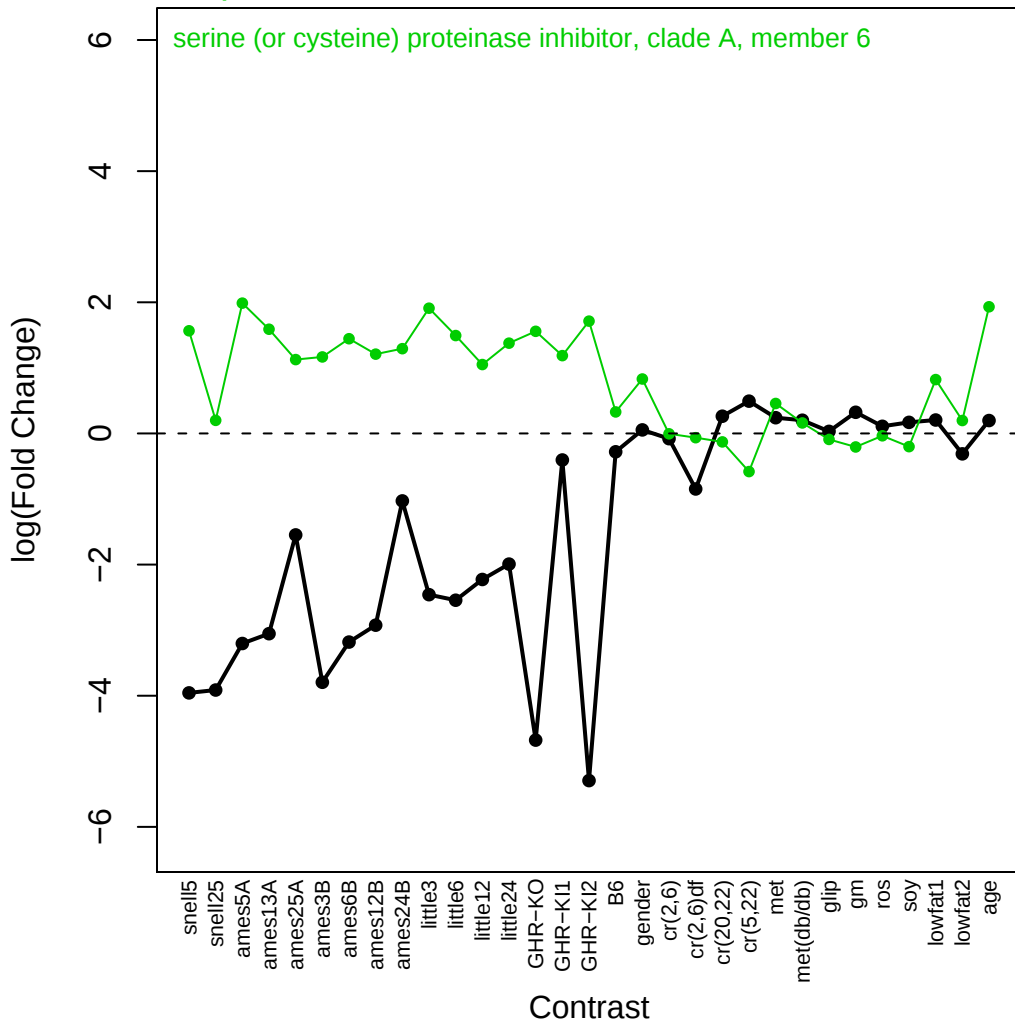
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Serpina6

serine (or cysteine) proteinase inhibitor, clade A, member 6



Gstm3

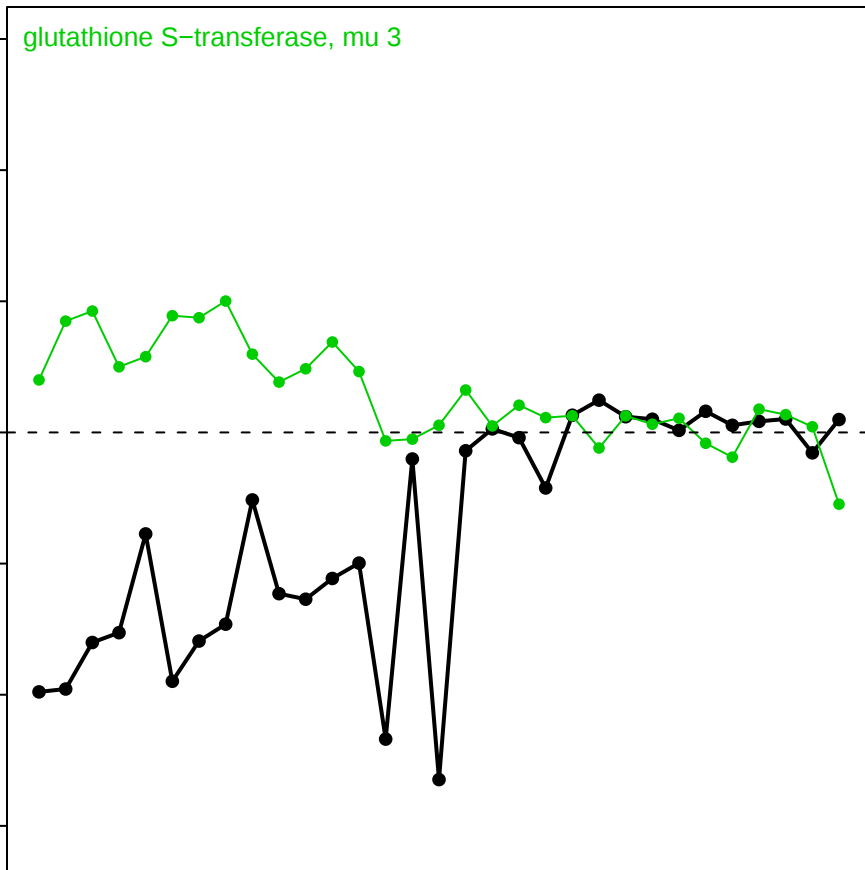
glutathione S-transferase, mu 3

log(Fold Change)

6
4
2
0
-2
-4
-6

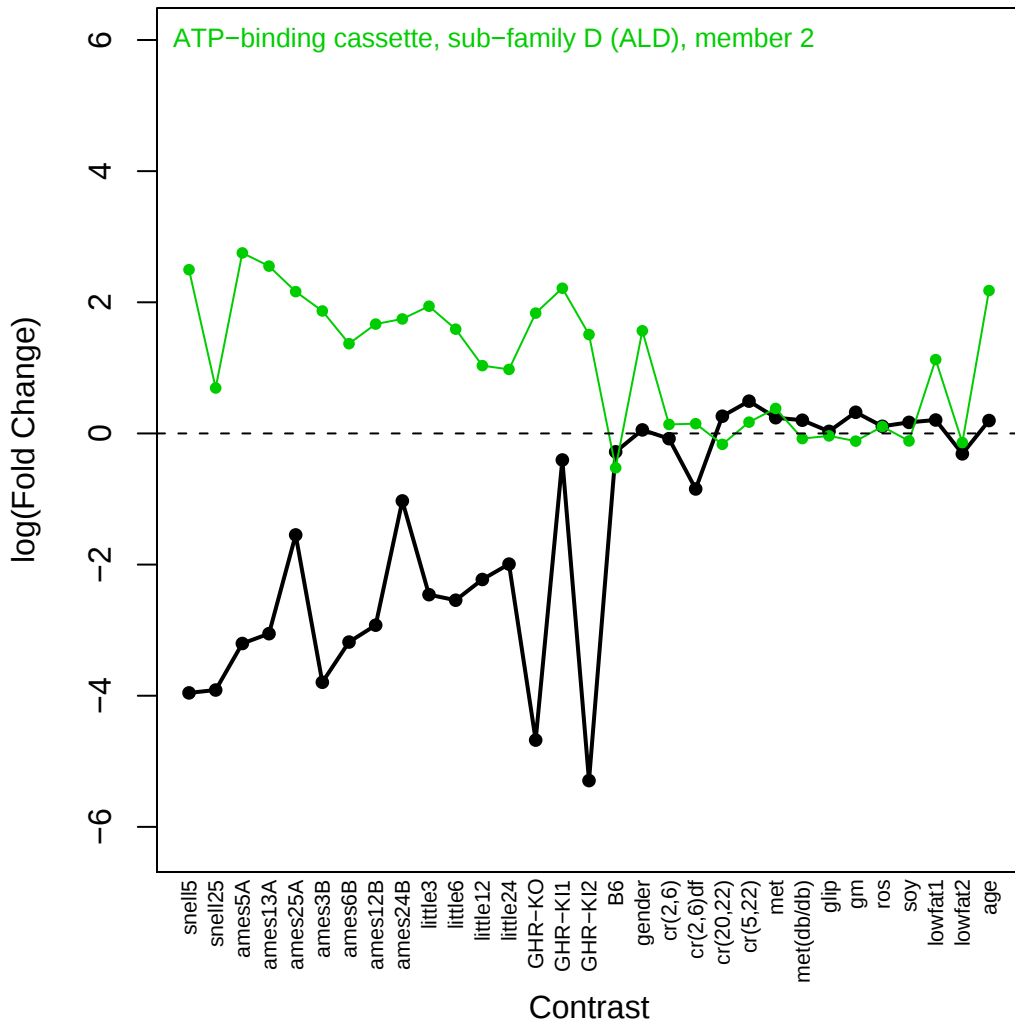
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



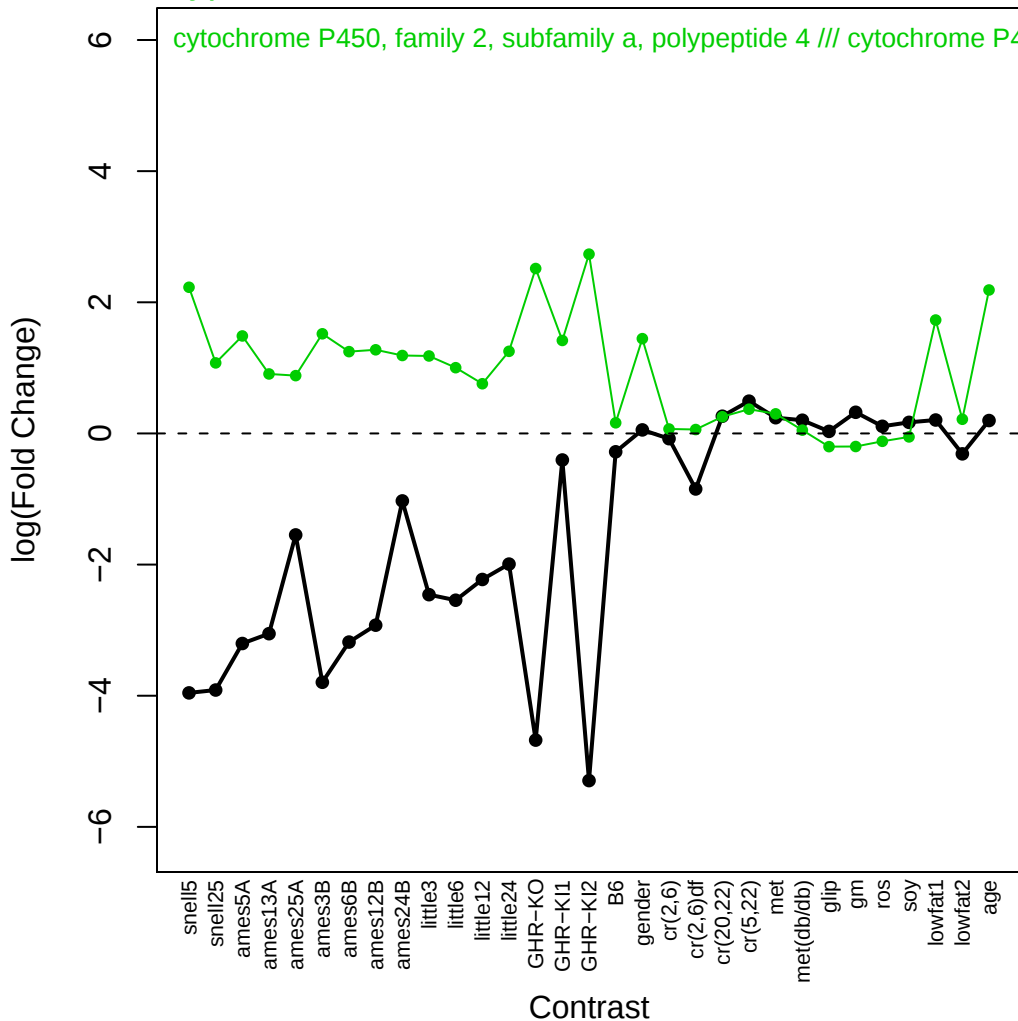
Abcd2

ATP-binding cassette, sub-family D (ALD), member 2



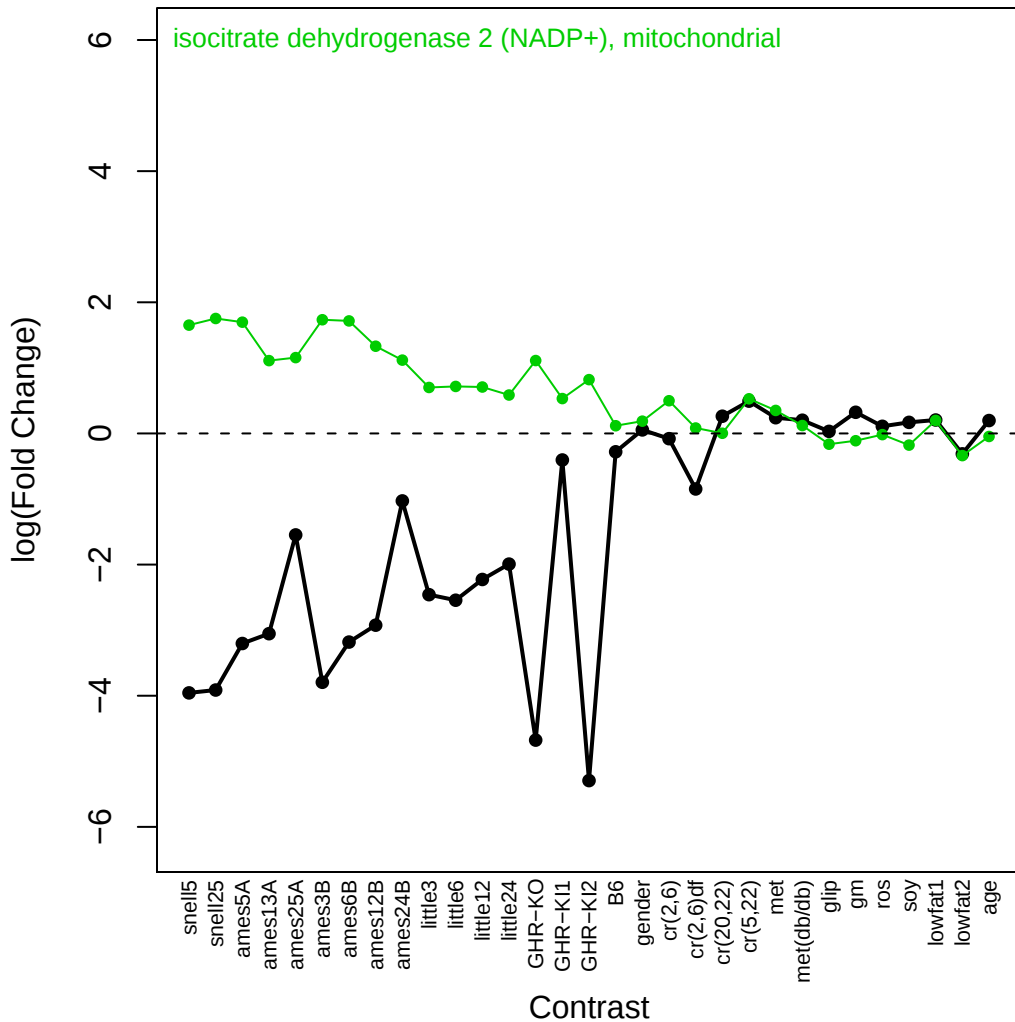
Cyp2a4

cytochrome P450, family 2, subfamily a, polypeptide 4 /// cytochrome P4



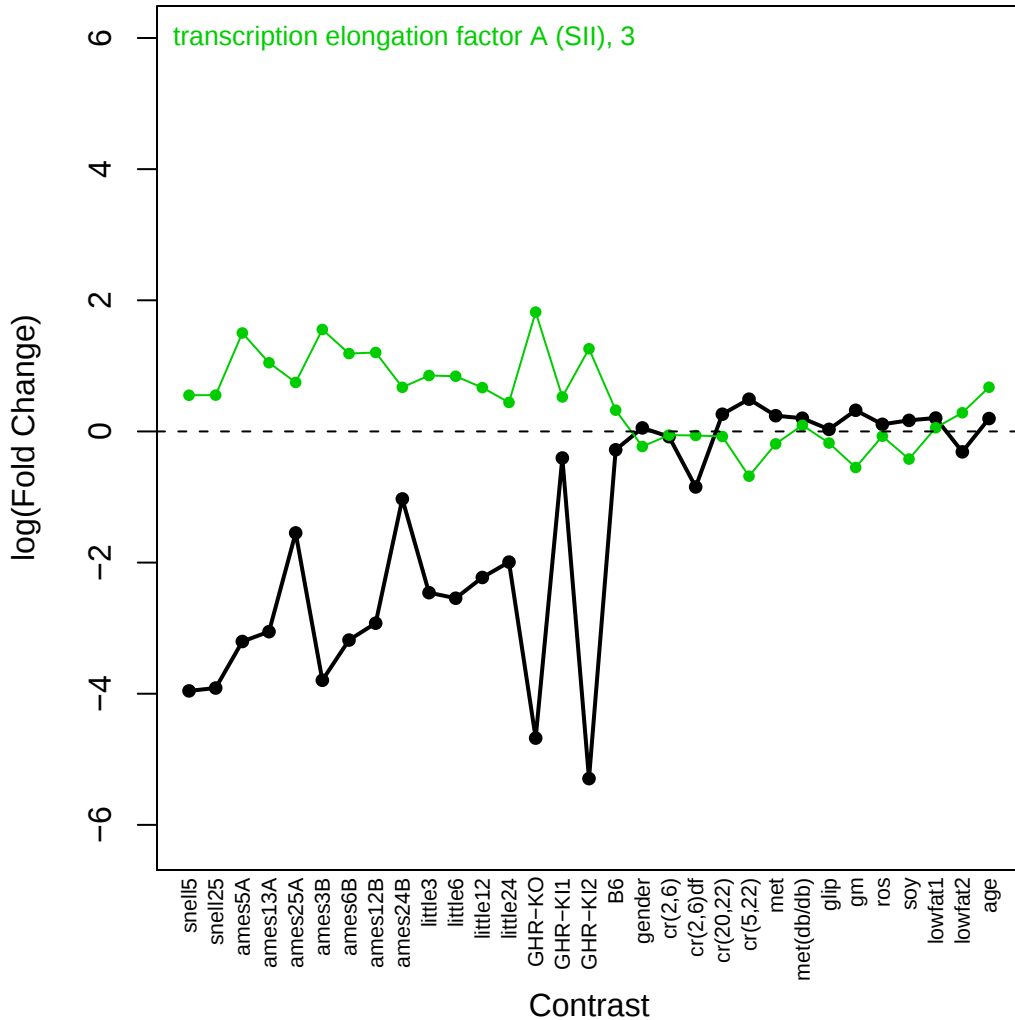
Idh3b

isocitrate dehydrogenase 2 (NADP+), mitochondrial



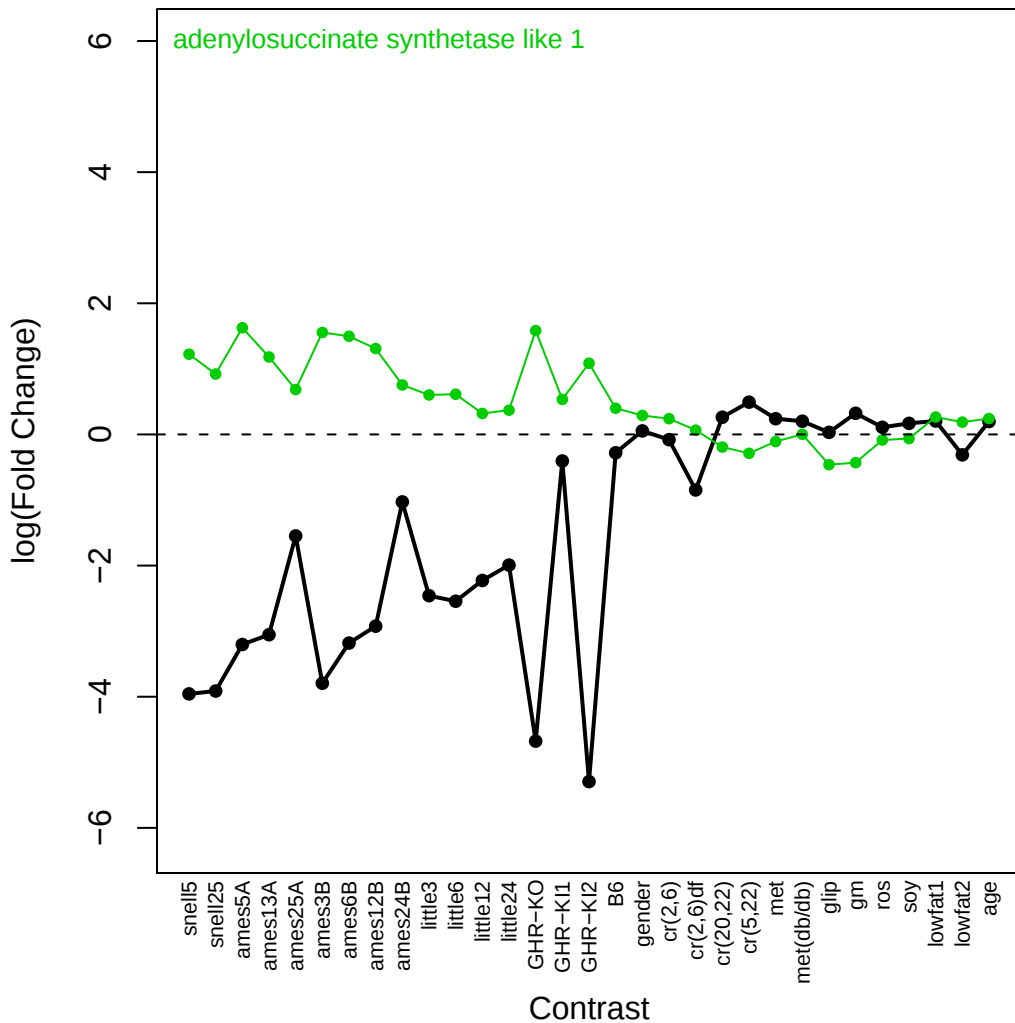
Tcea3

transcription elongation factor A (SII), 3



Adssl1

adenylosuccinate synthetase like 1



Sult1a1

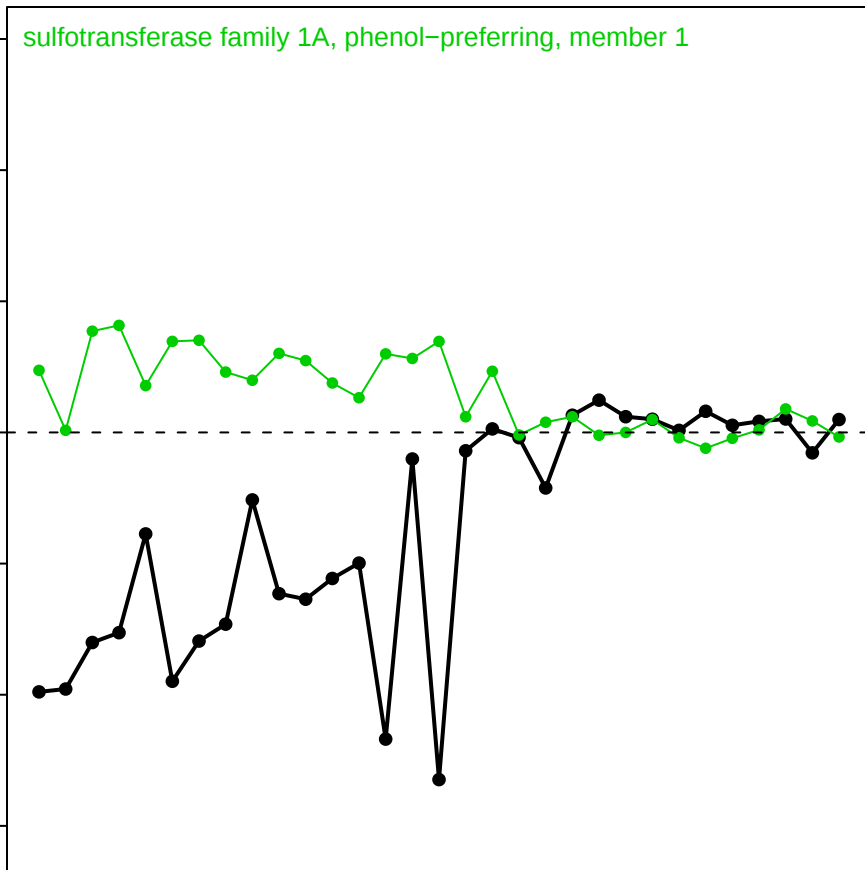
sulfotransferase family 1A, phenol-preferring, member 1

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Rtn4

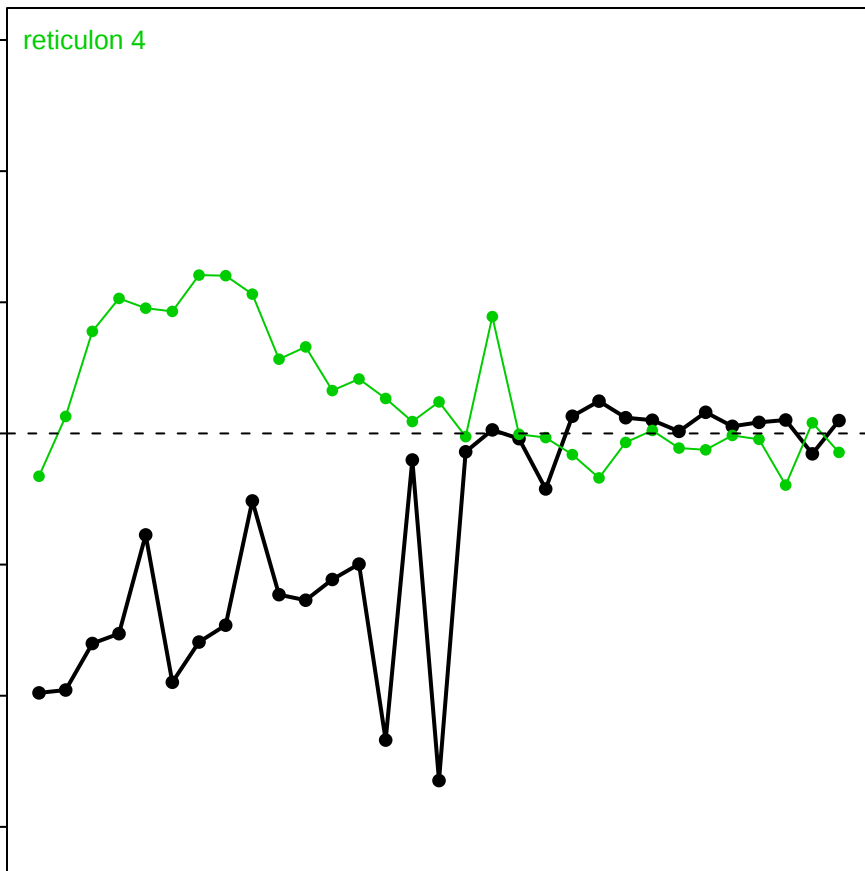
reticulon 4

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Gsta4

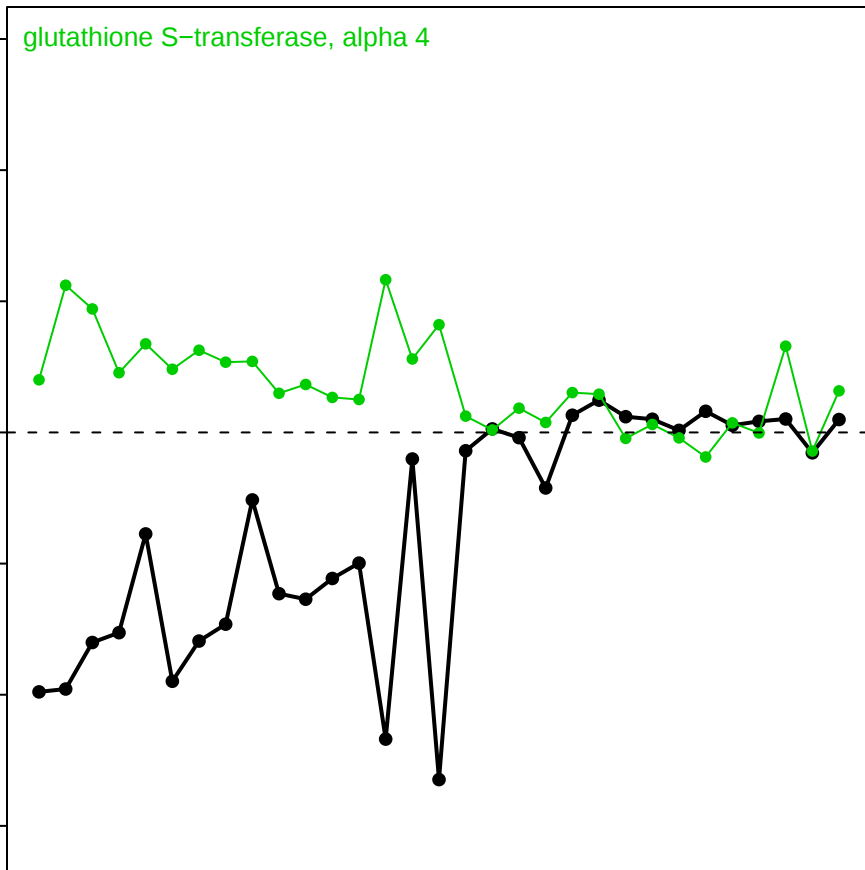
glutathione S-transferase, alpha 4

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Mt1

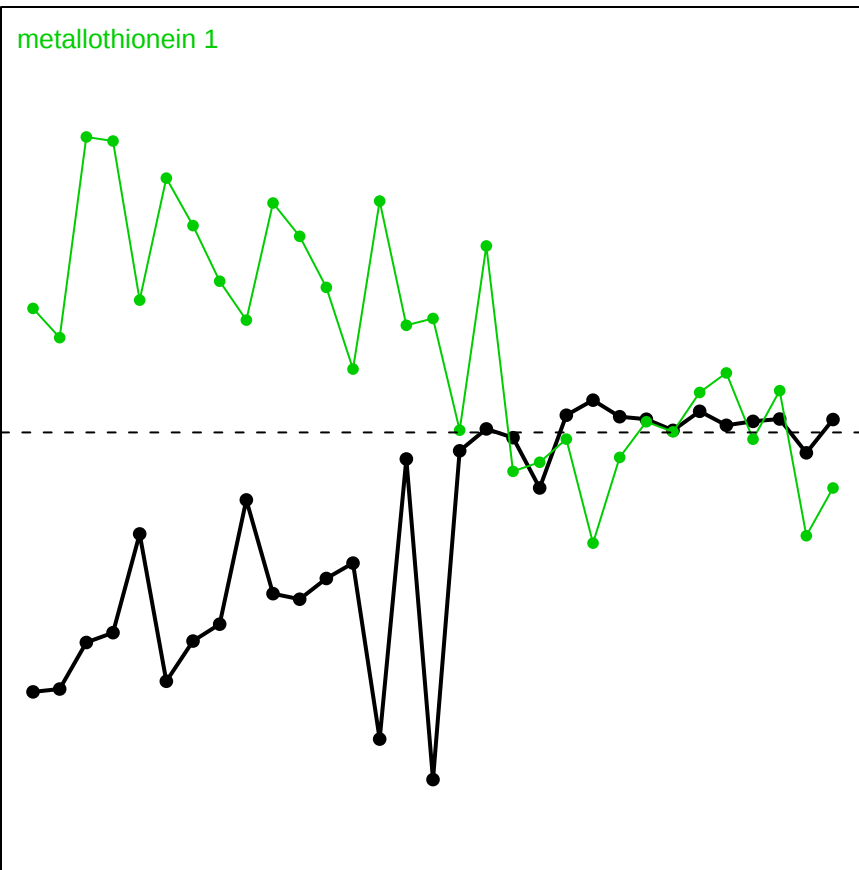
metallothionein 1

log(Fold Change)

6
4
2
0
-2
-4
-6

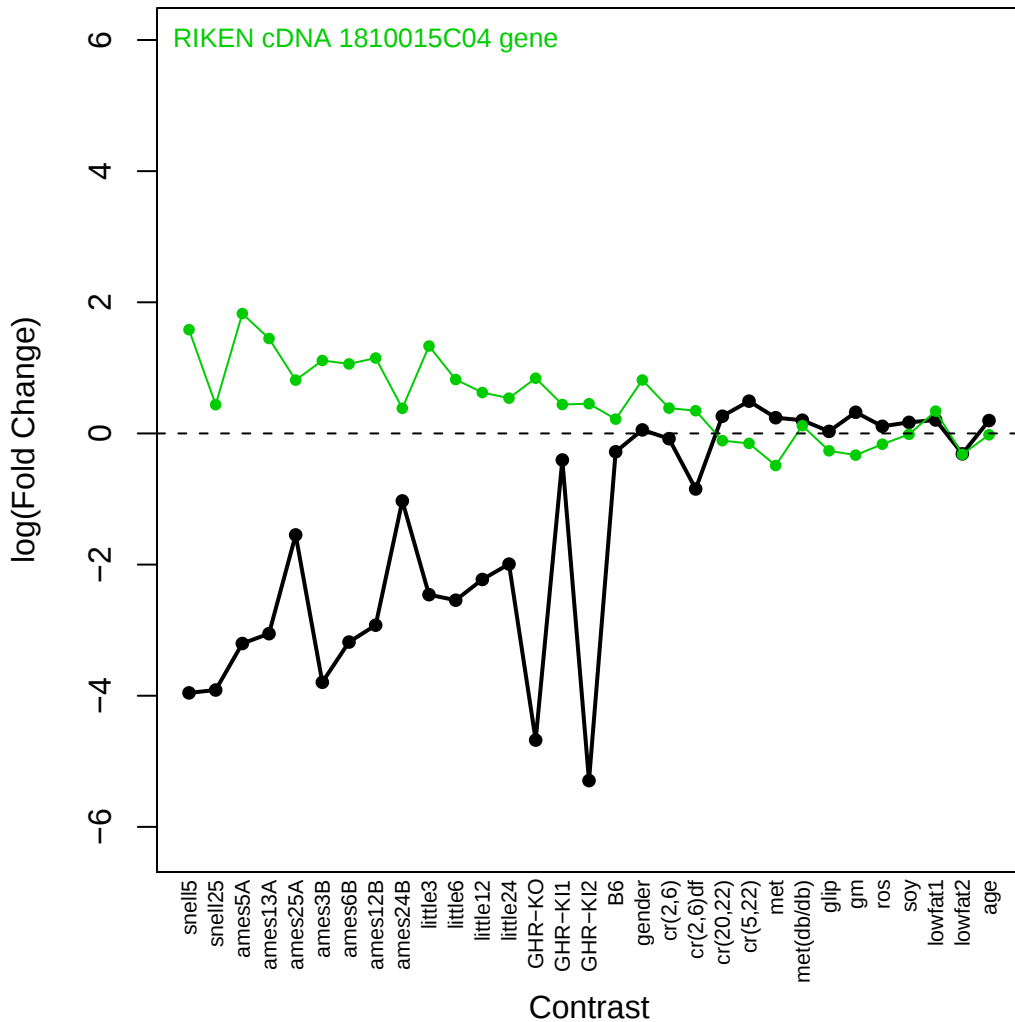
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



1810015C04Rik

RIKEN cDNA 1810015C04 gene



Gsta2

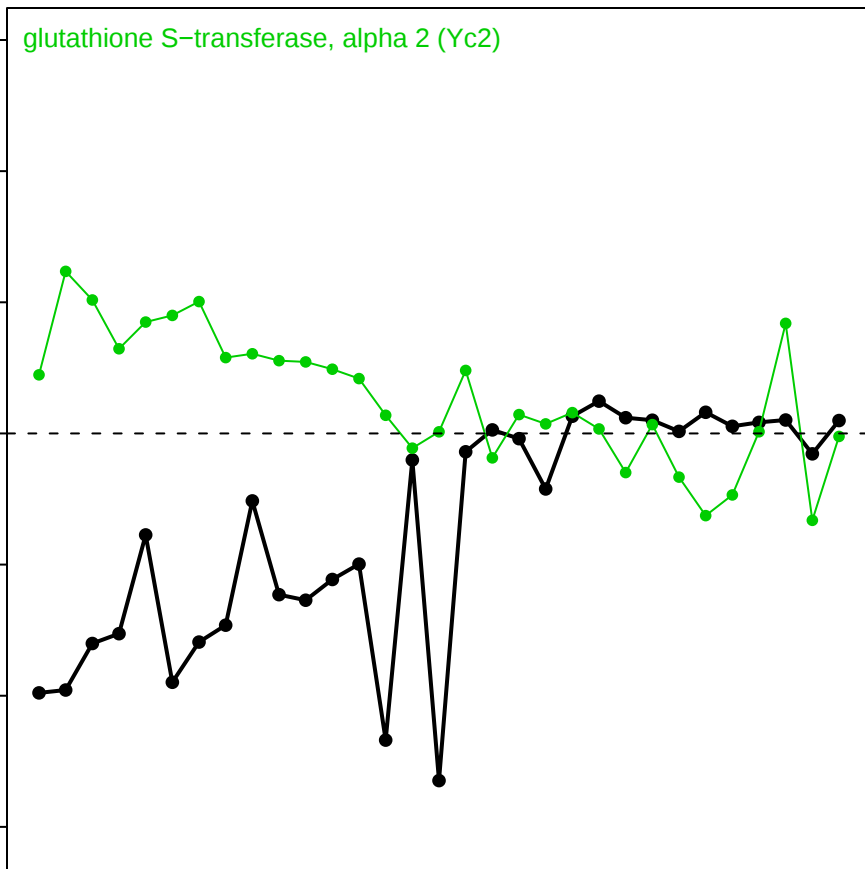
glutathione S-transferase, alpha 2 (Yc2)

log(Fold Change)

6
4
2
0
-2
-4
-6

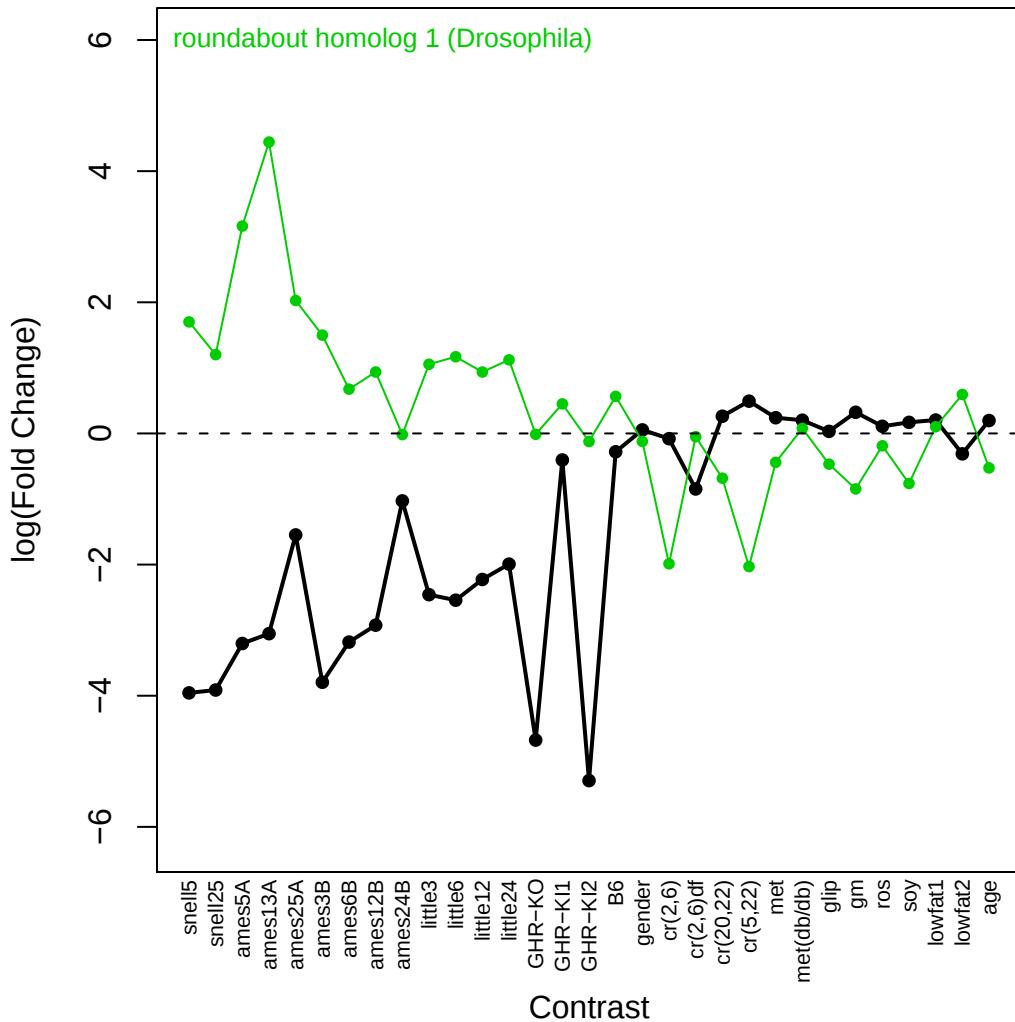
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Robo1

roundabout homolog 1 (Drosophila)



Btg1

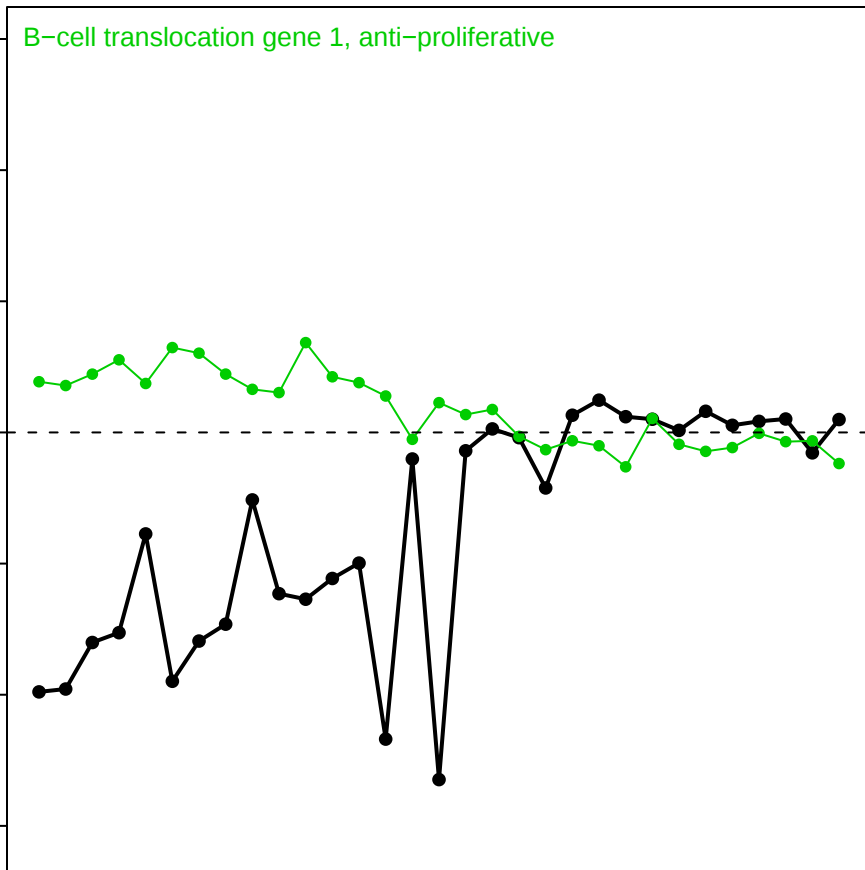
B-cell translocation gene 1, anti-proliferative

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Rdh16

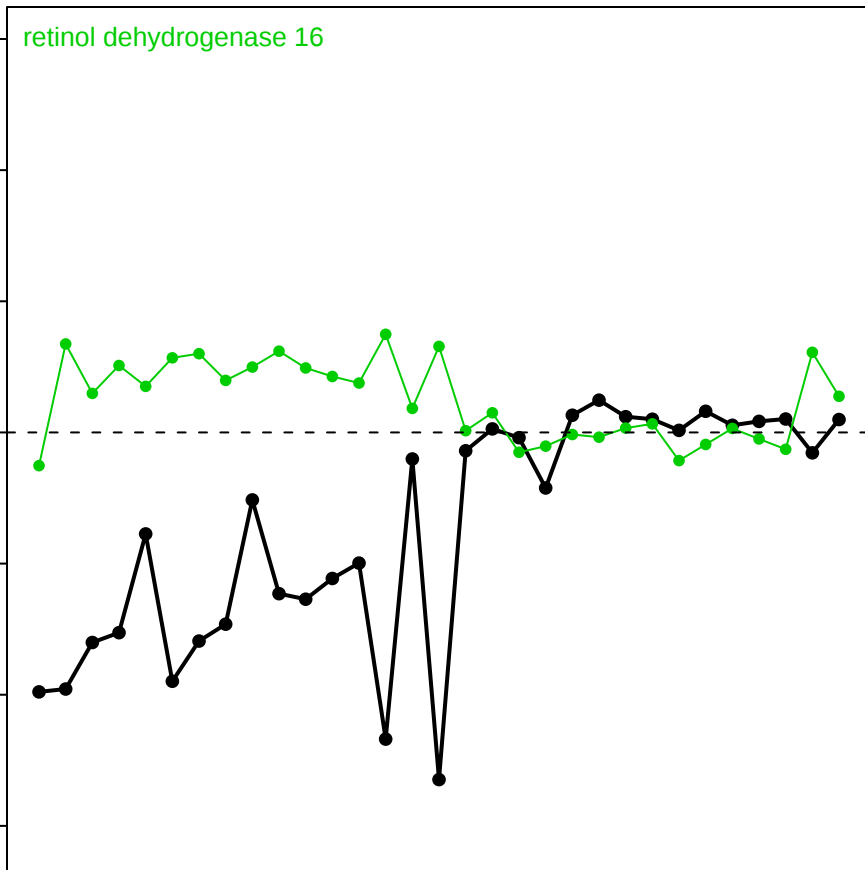
retinol dehydrogenase 16

log(Fold Change)

6
4
2
0
-2
-4
-6

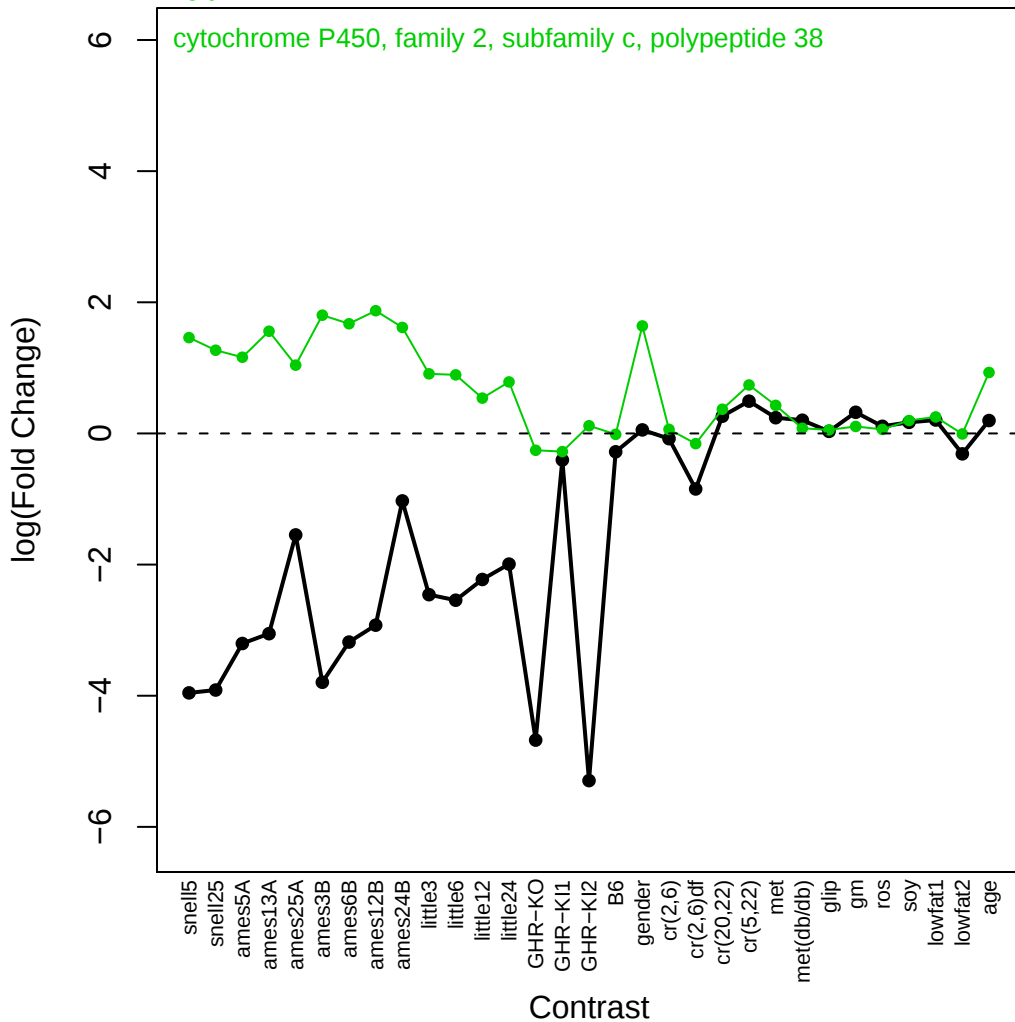
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Cyp2c38

cytochrome P450, family 2, subfamily c, polypeptide 38



Papss2

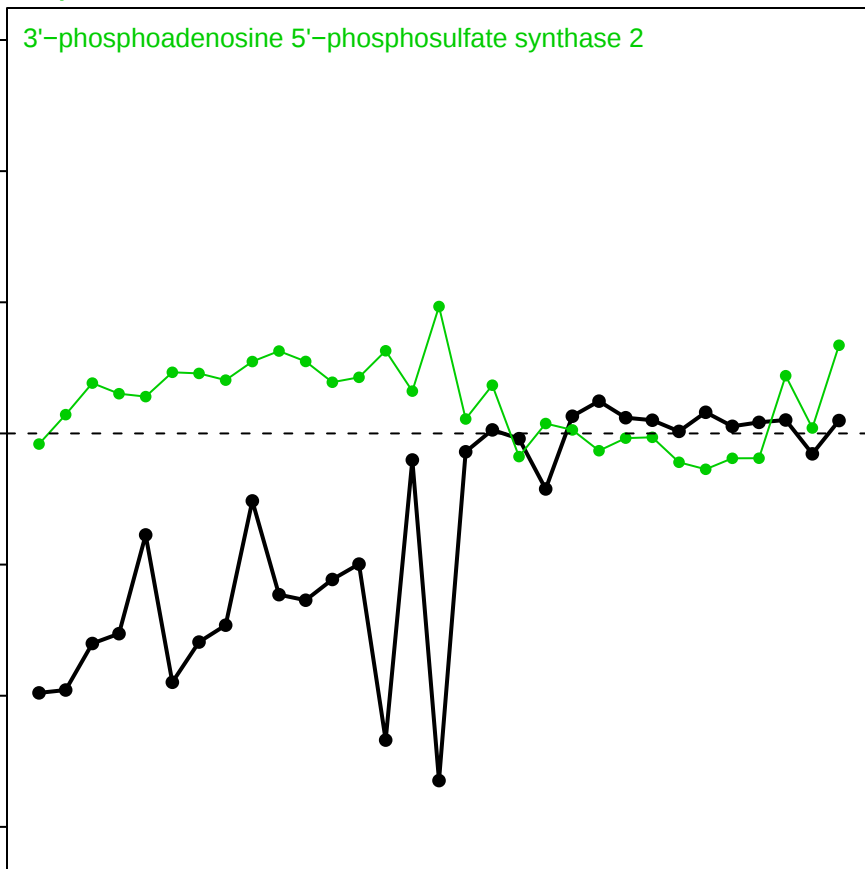
3'-phosphoadenosine 5'-phosphosulfate synthase 2

log(Fold Change)

6
4
2
0
-2
-4
-6

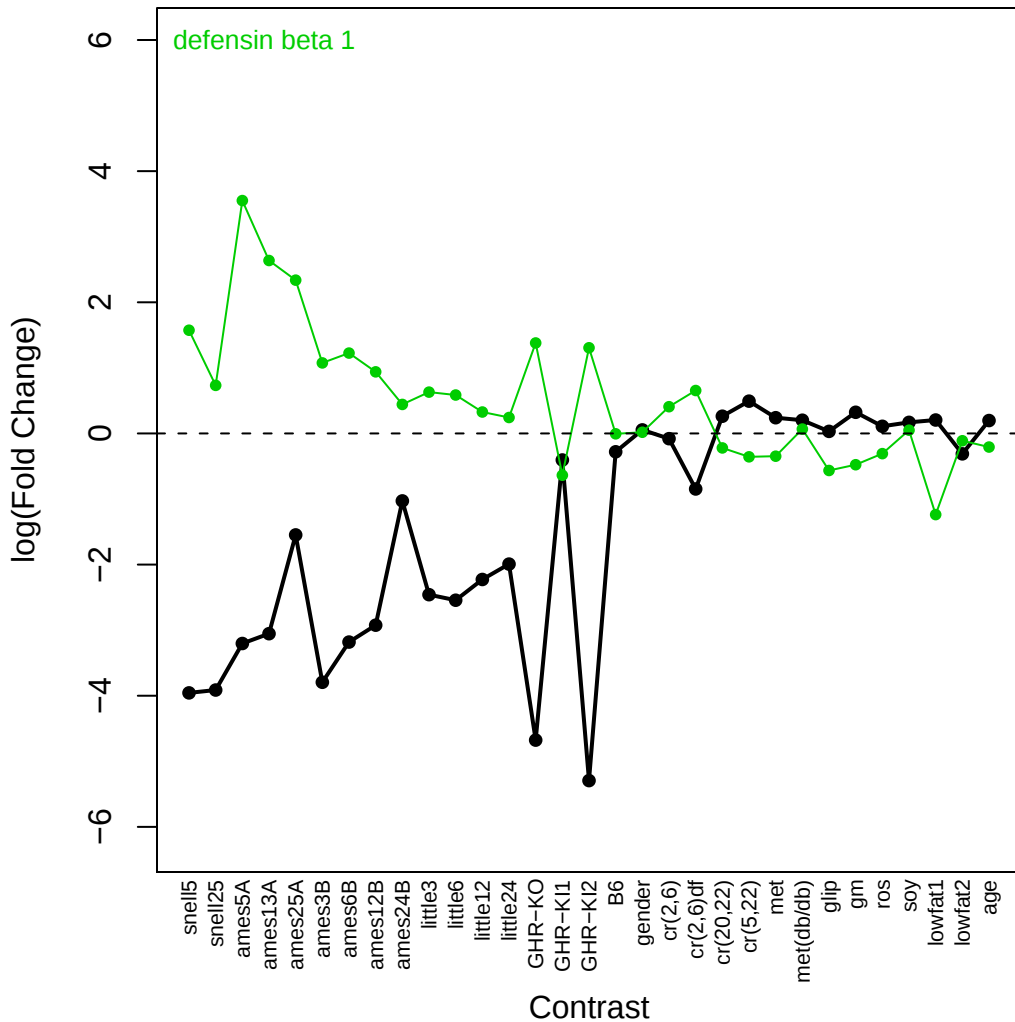
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Defb1

defensin beta 1



Igfbp2

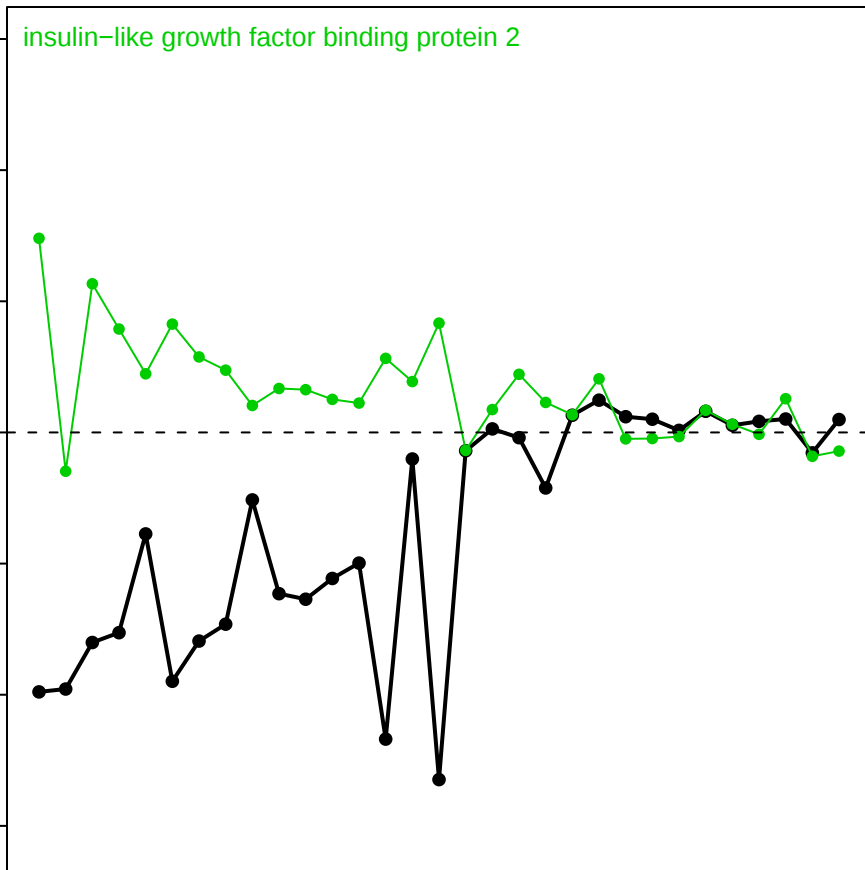
insulin-like growth factor binding protein 2

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Il1rn

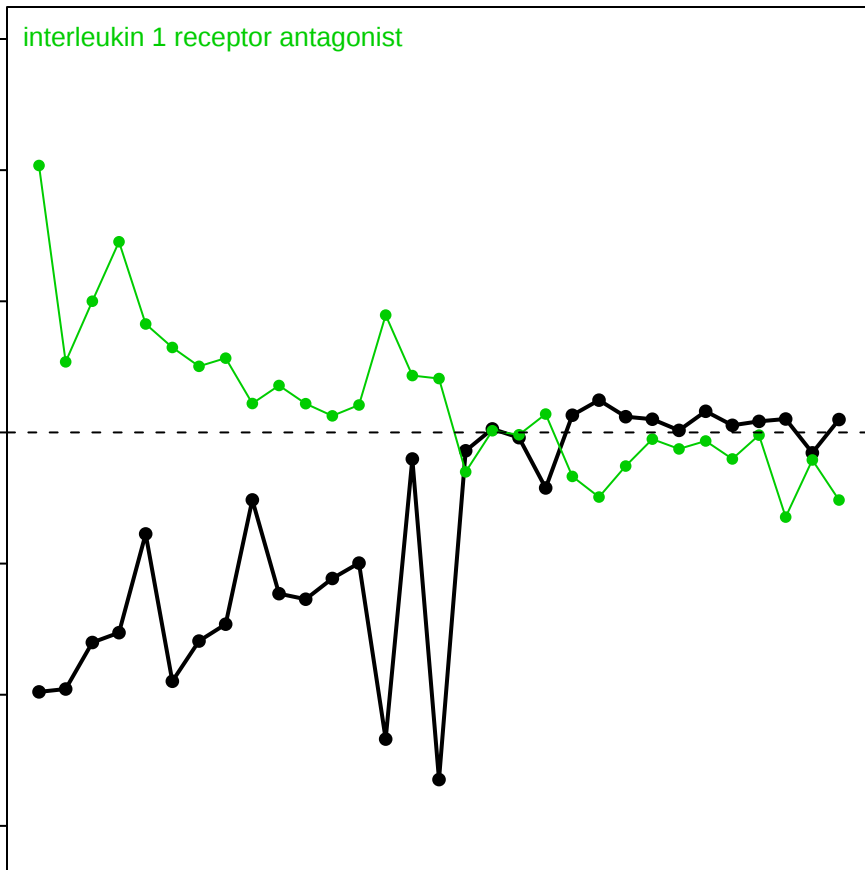
interleukin 1 receptor antagonist

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Sult1d1

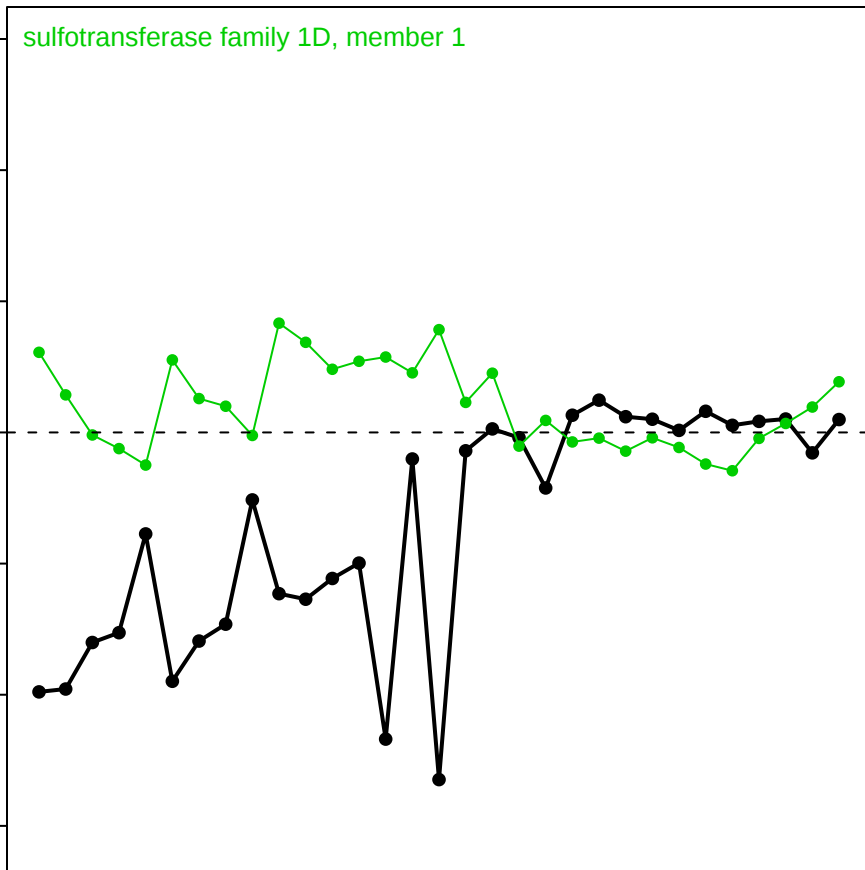
sulfotransferase family 1D, member 1

log(Fold Change)

6
4
2
0
-2
-4
-6

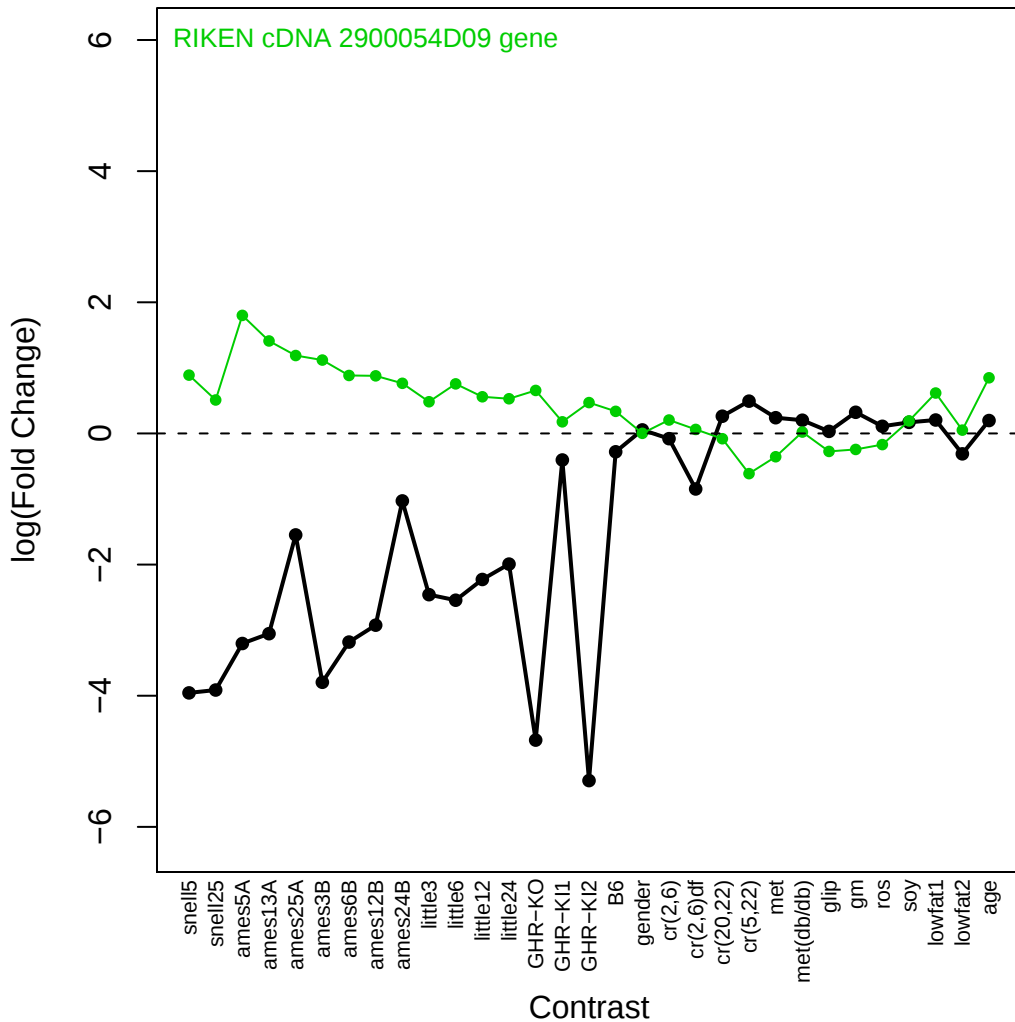
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Ank3

RIKEN cDNA 2900054D09 gene



Slc7a2

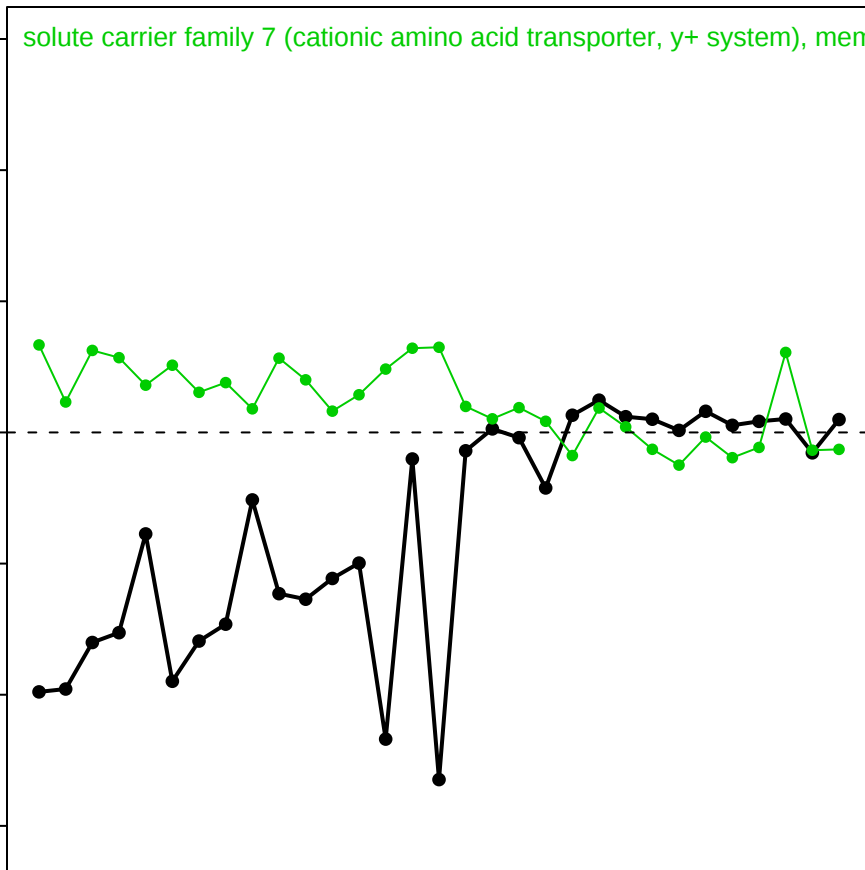
solute carrier family 7 (cationic amino acid transporter, y+ system), mem

log(Fold Change)

6
4
2
0
-2
-4
-6

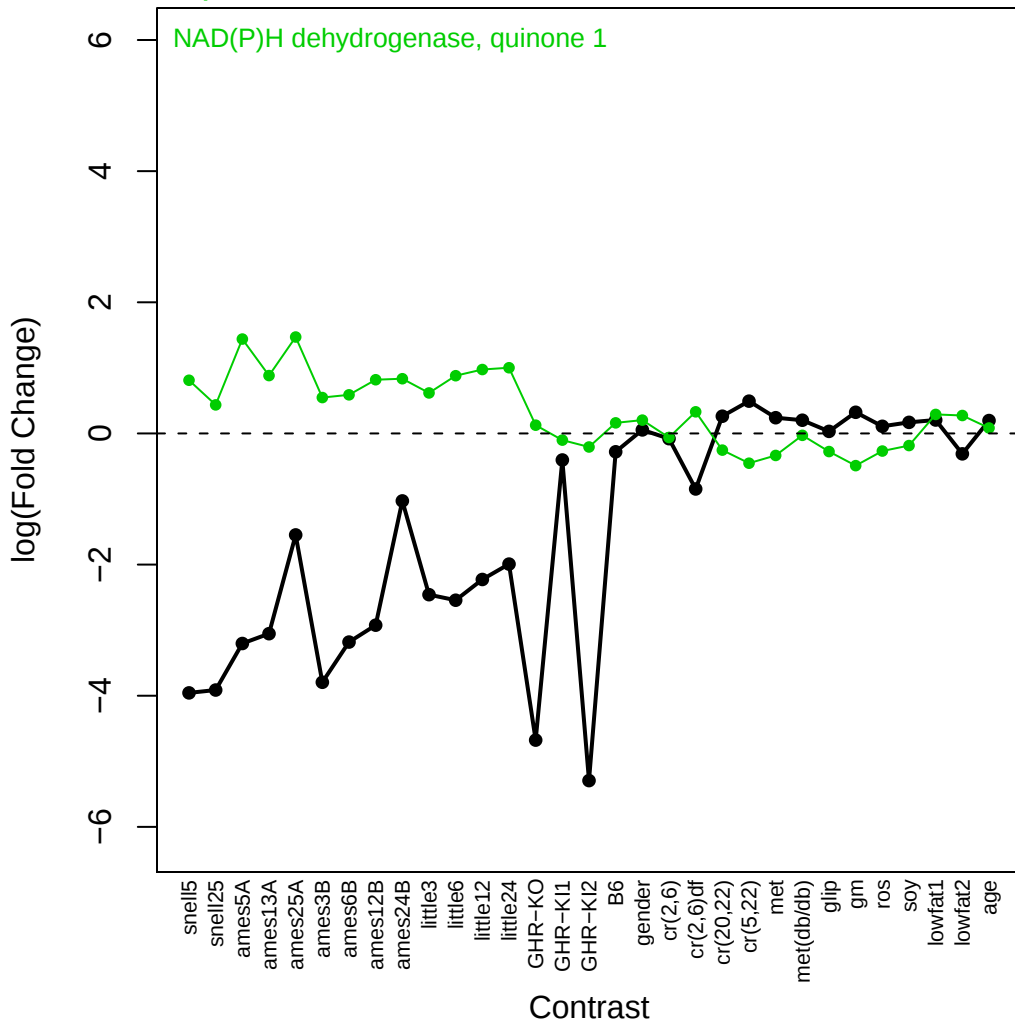
snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Nqo1

NAD(P)H dehydrogenase, quinone 1



Tuba8

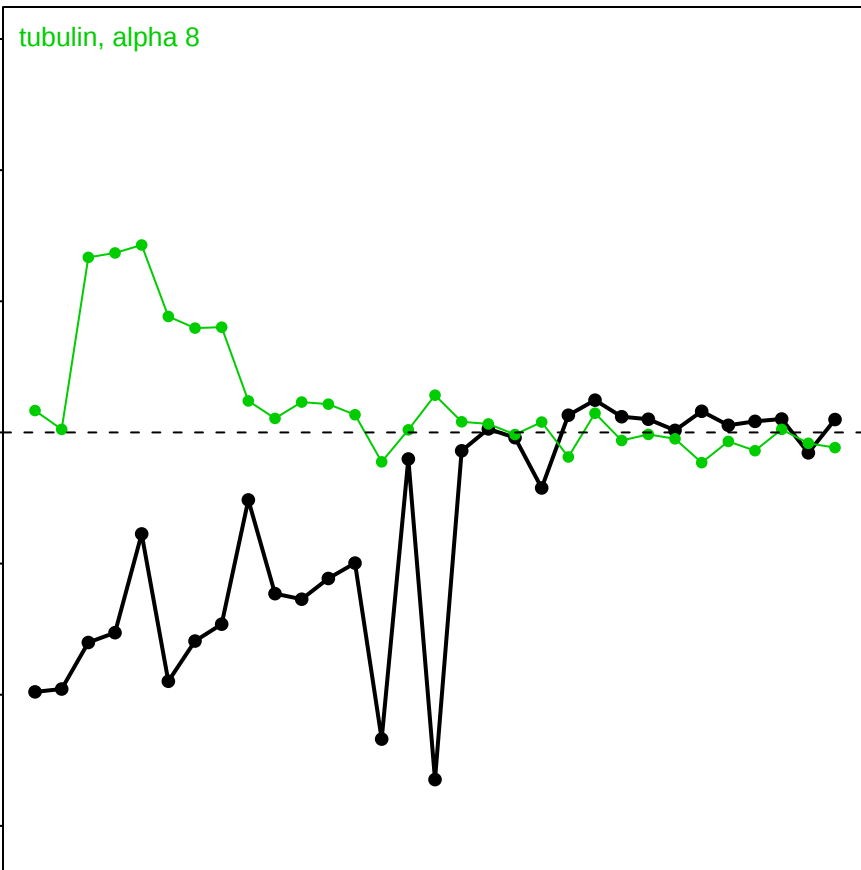
tubulin, alpha 8

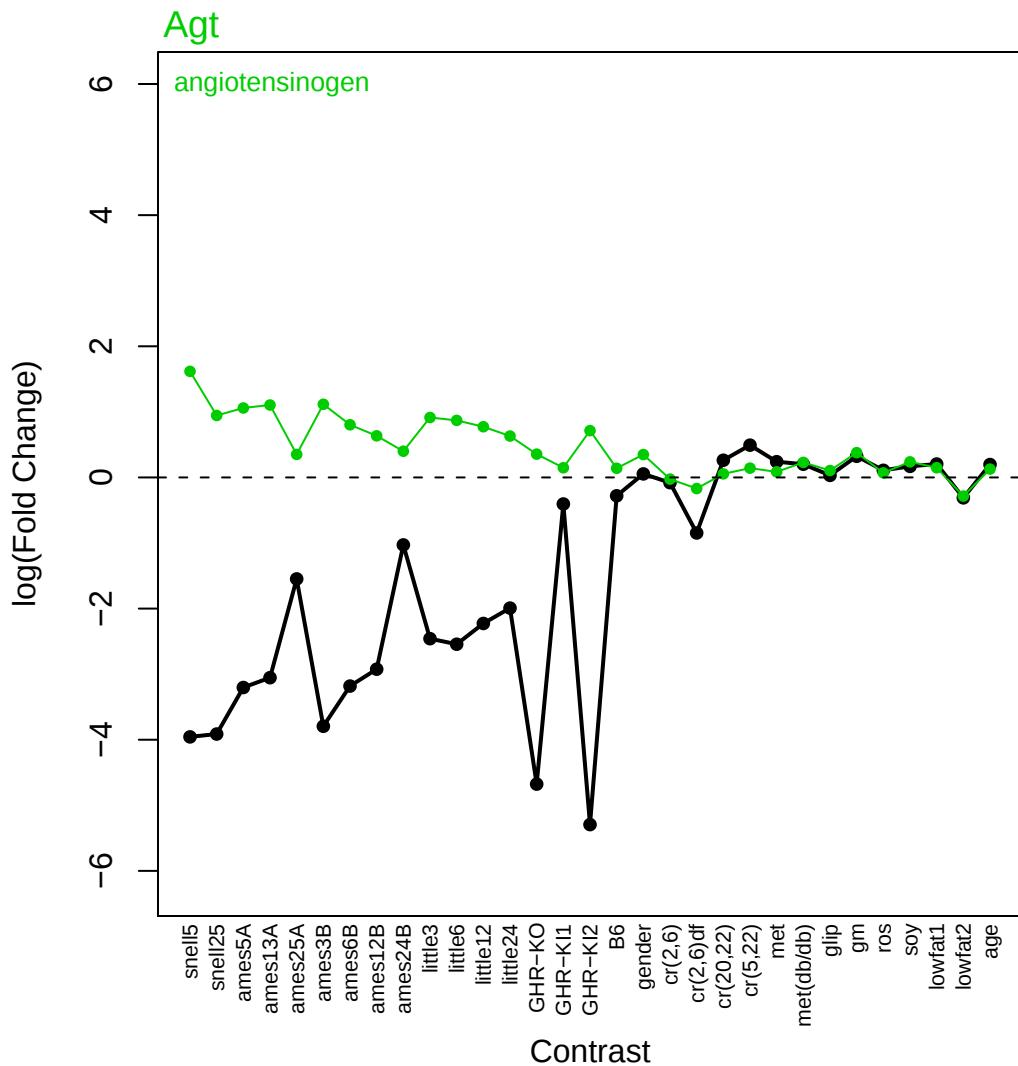
log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast





Ces1

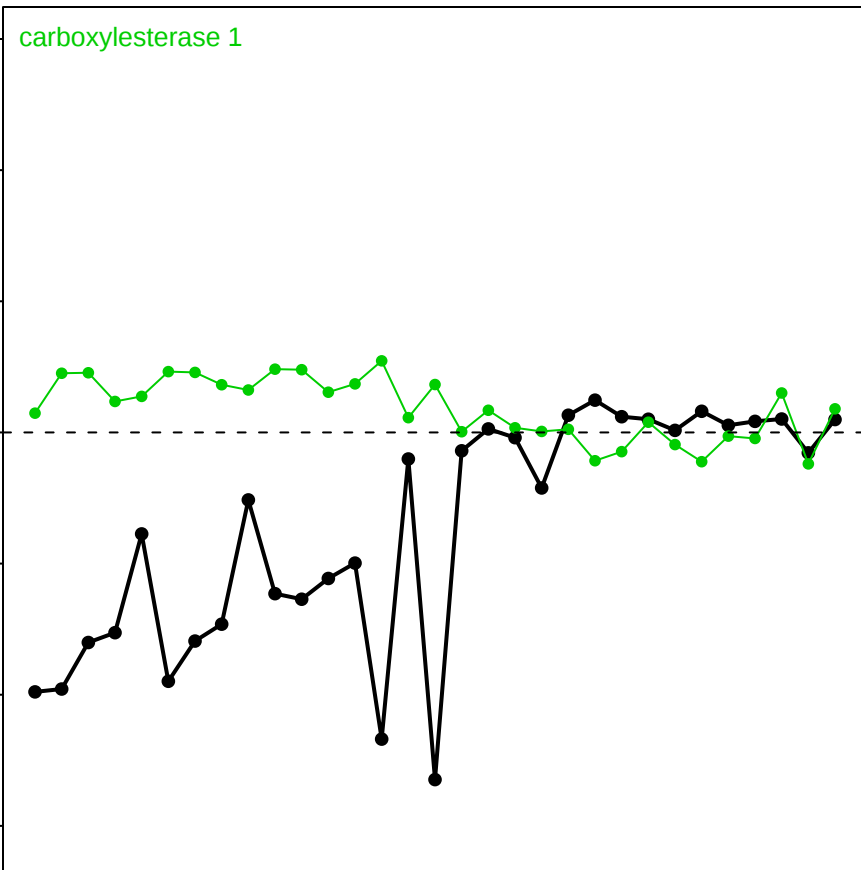
carboxylesterase 1

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Vnn3

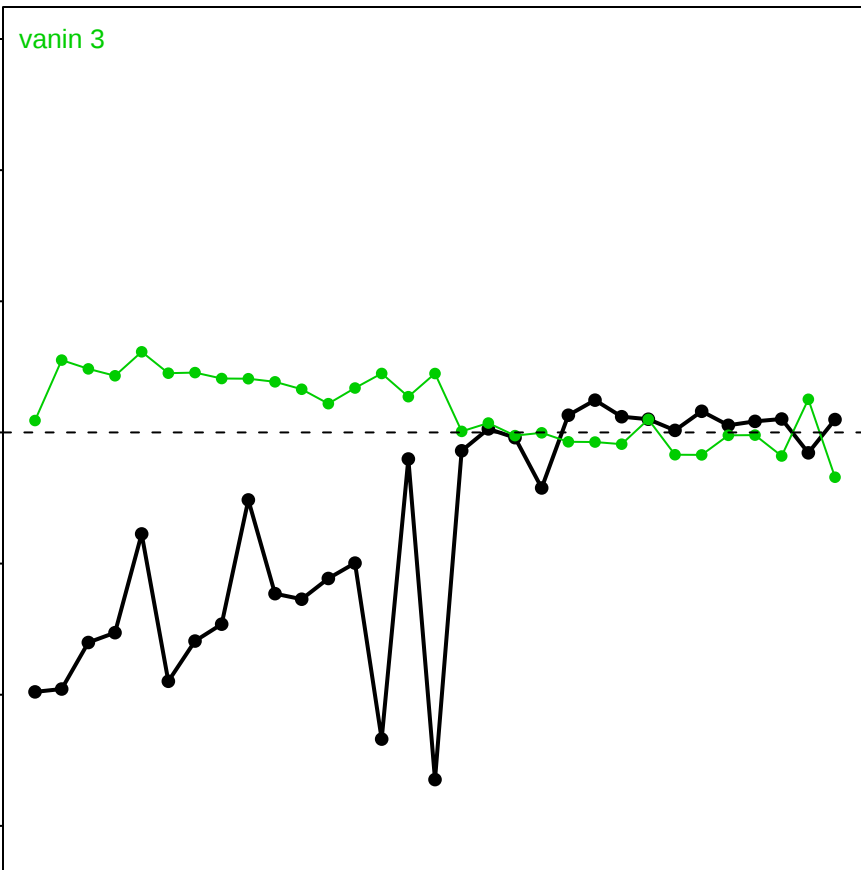
vanin 3

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast



Odz3

odd Oz/ten-m homolog 3 (Drosophila)

log(Fold Change)

6
4
2
0
-2
-4
-6

snell5
snell25
ames5A
ames13A
ames25A
ames3B
ames6B
ames12B
ames24B
little3
little6
little12
little24
GHR-KO
GHR-K11
GHR-K12
B6
gender
cr(2,6)
cr(2,6)df
cr(20,22)
cr(5,22)
met
met(db/db)
glip
gm
ros
soy
lowfat1
lowfat2
age

Contrast

