

Interactive visualization and data exploration

Charlotte Soneson

Friedrich Miescher Institute for Biomedical Research &
SIB Swiss Institute of Bioinformatics



Swiss Institute of
Bioinformatics



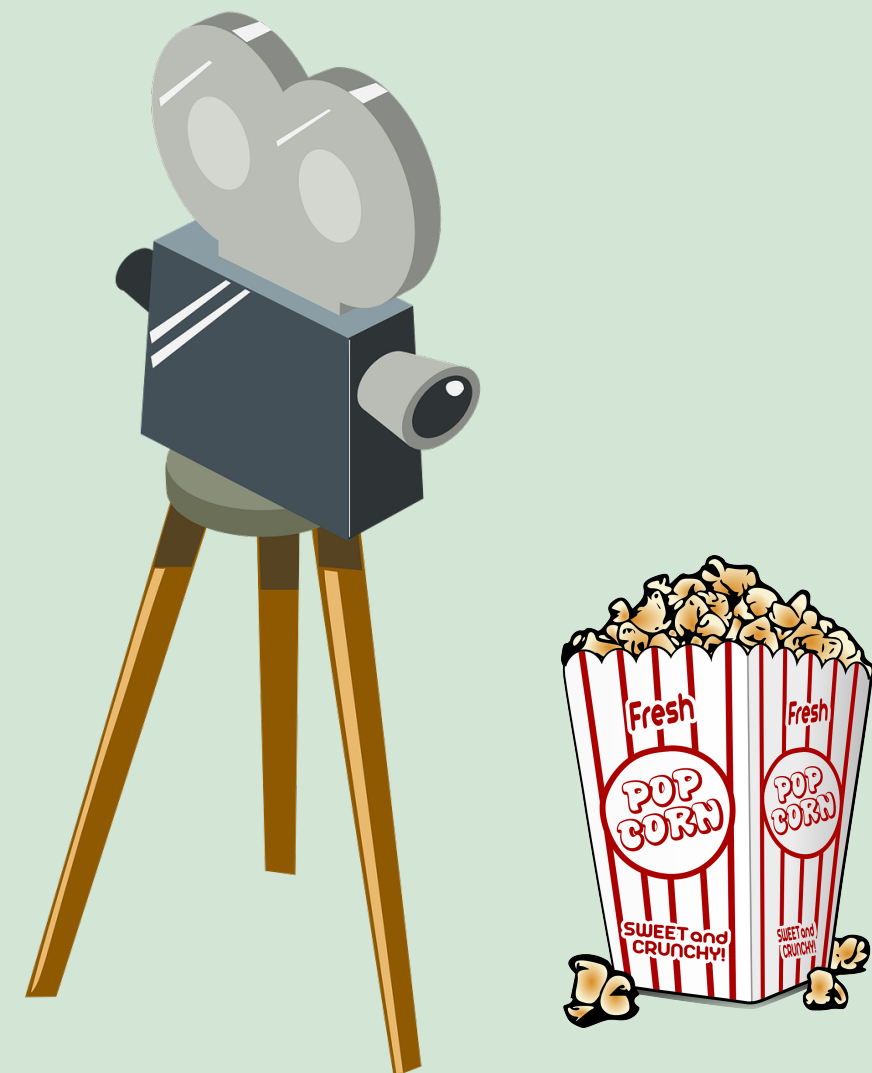
Friedrich Miescher Institute
for Biomedical Research

How can (interactive) visualization be helpful?

**Quality
assessment**



**Hypothesis
generation/
exploration**



**Result
visualization**

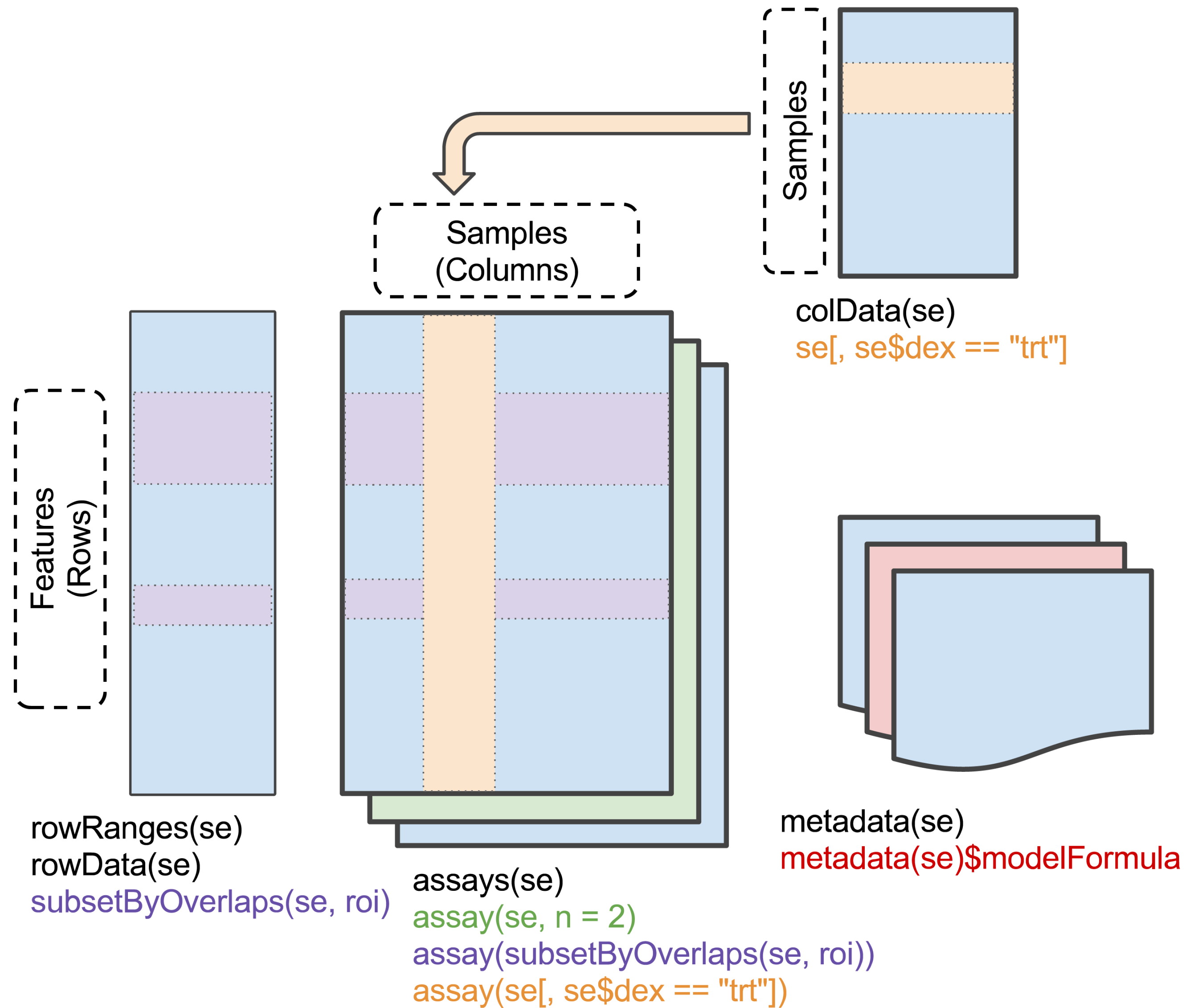
Communication



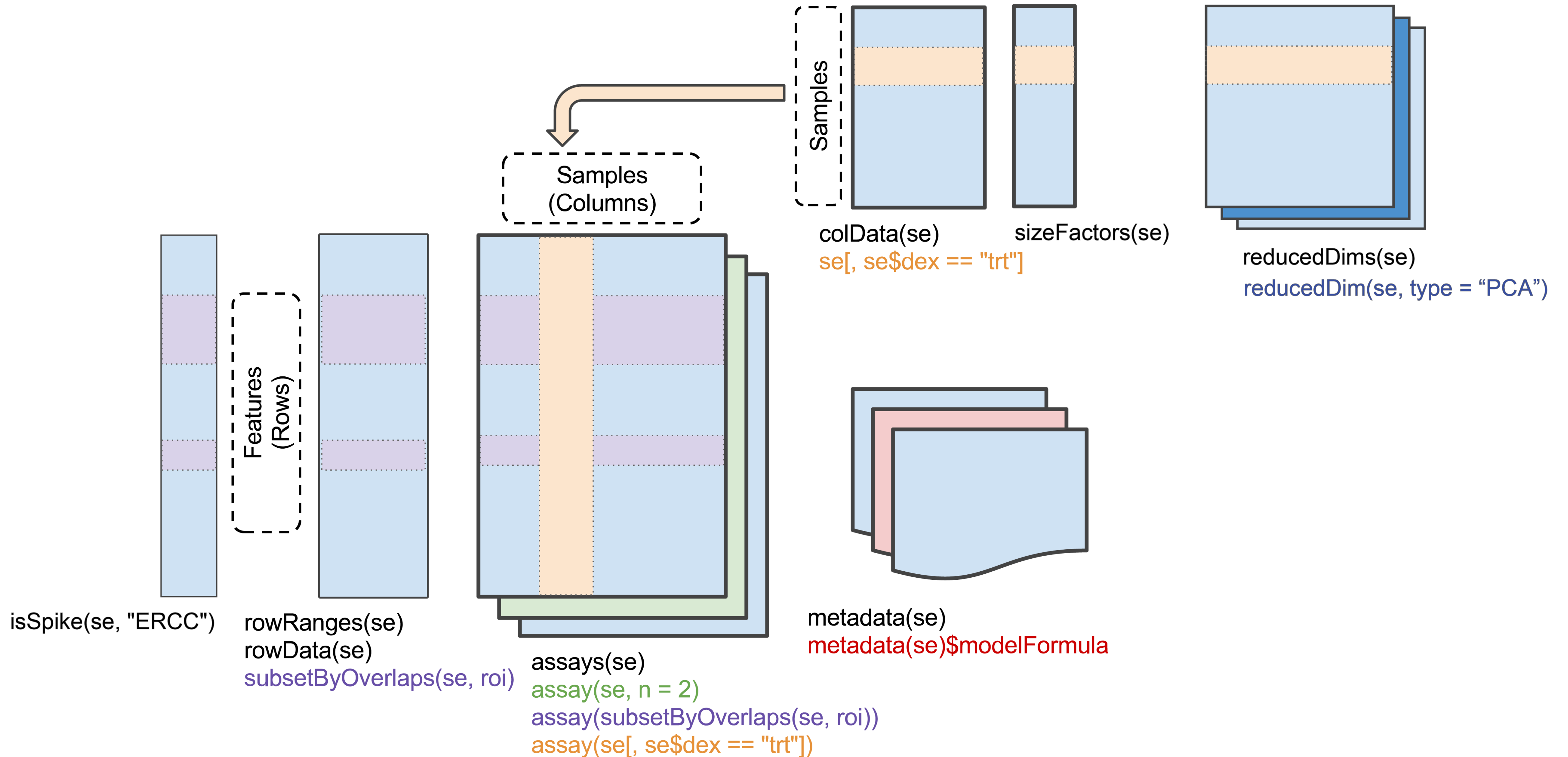
iSEE

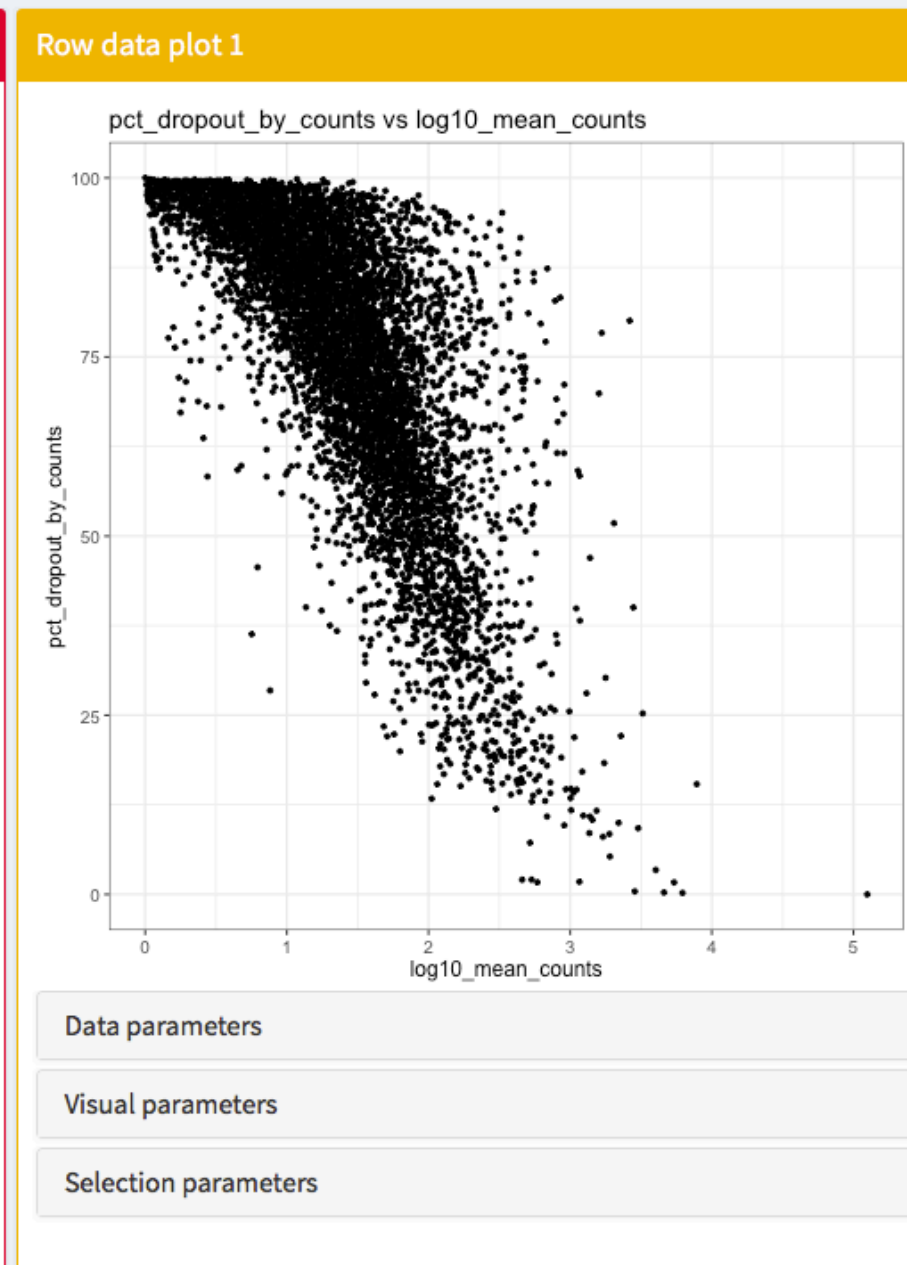
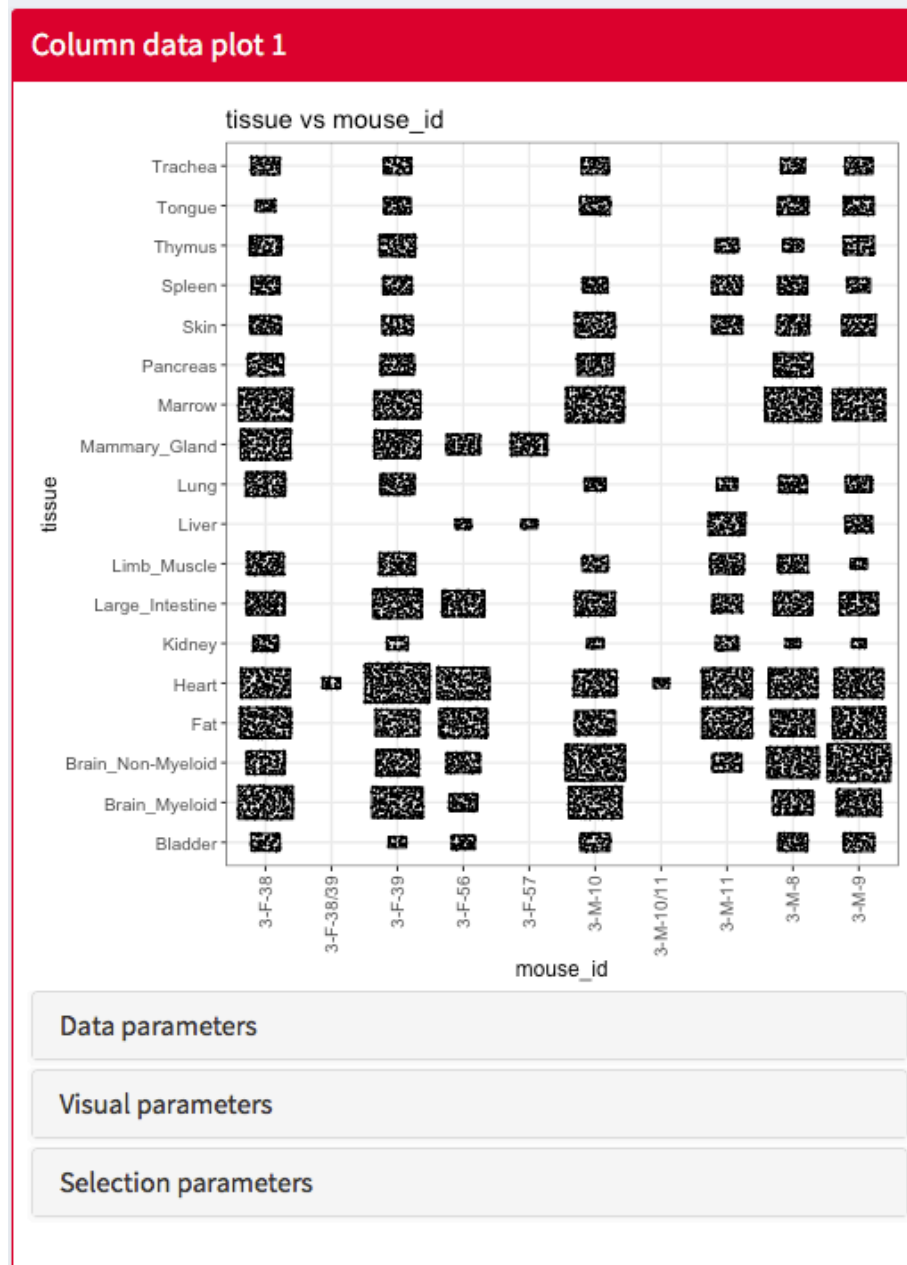
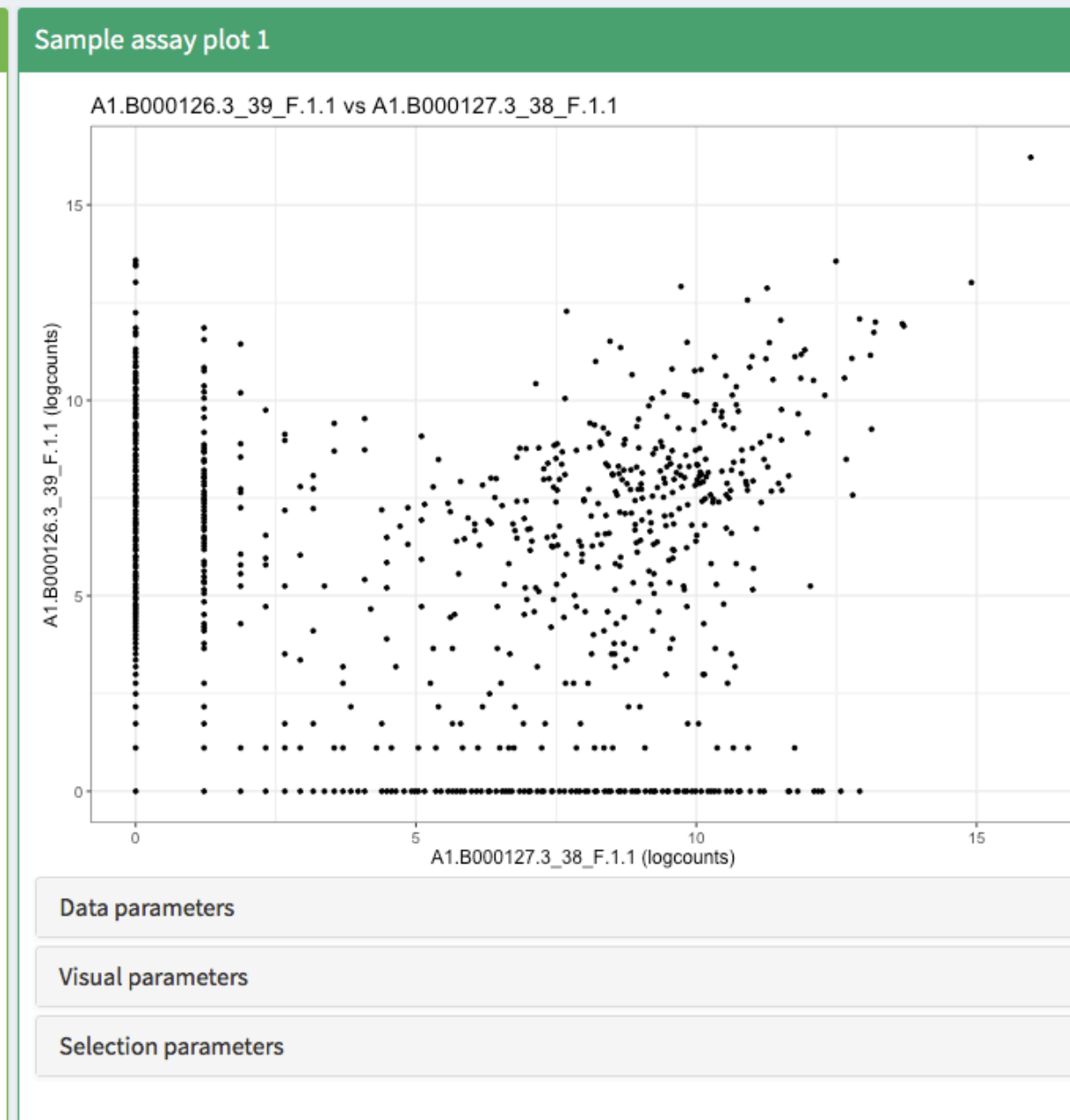
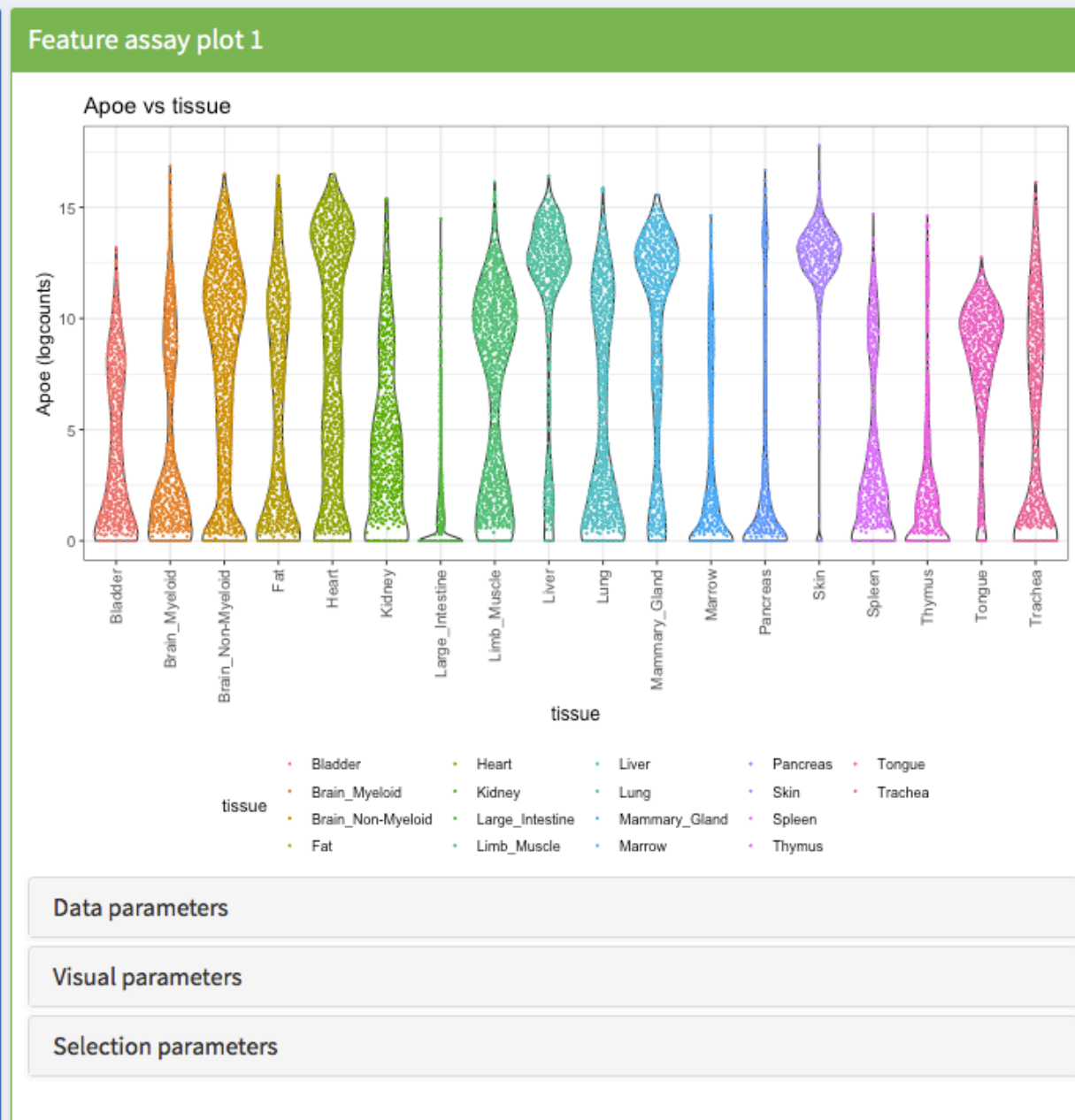
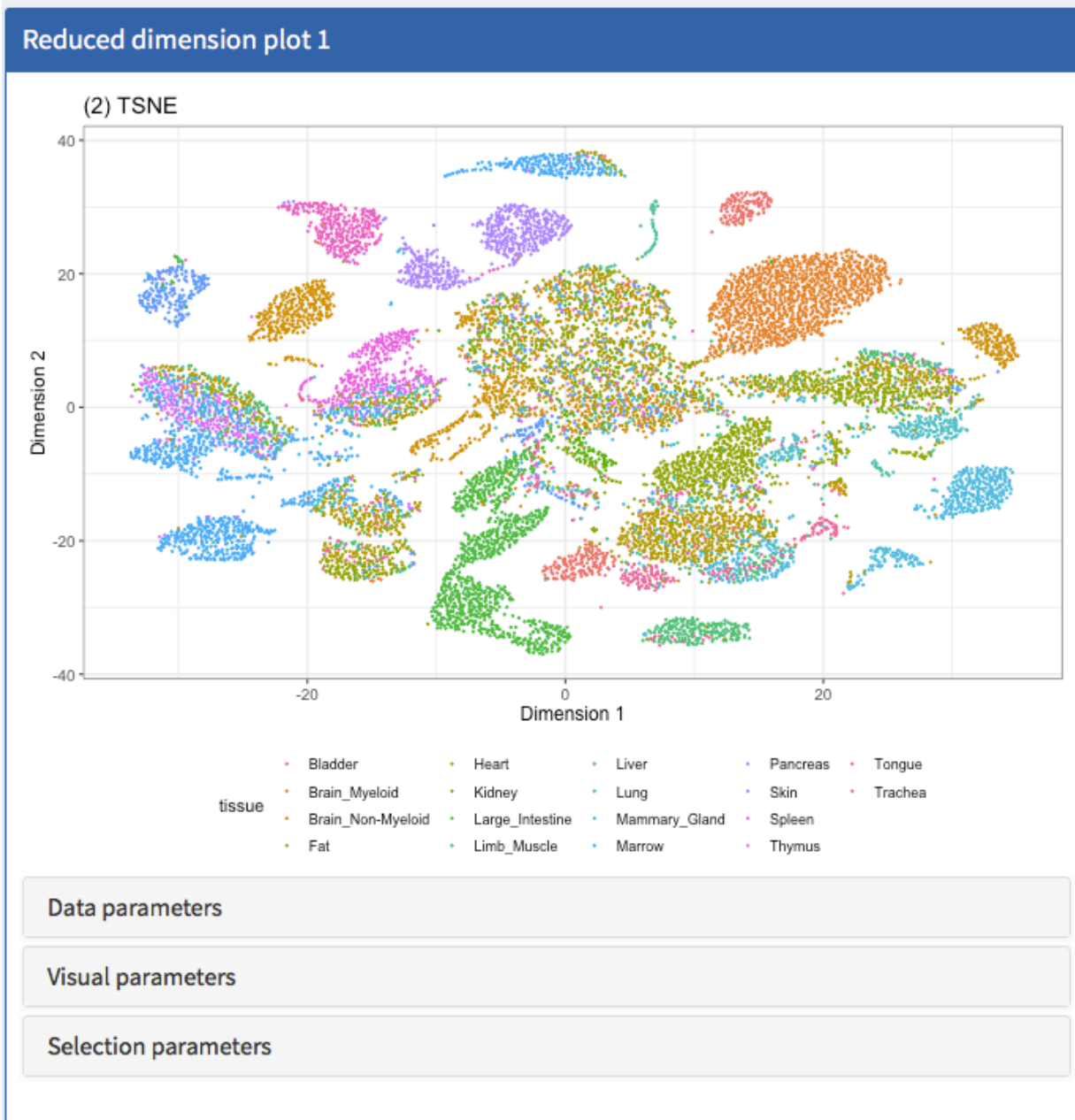
- Bioconductor package for interactive exploration of SummarizedExperiment objects (=any 'rectangular' data with row and column annotations)
- Flexible and scalable
- Reproducibility - all code to regenerate figures is provided

The SummarizedExperiment class



The SingleCellExperiment class





Column statistics table 1

Show 10 entries

Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries

Search:

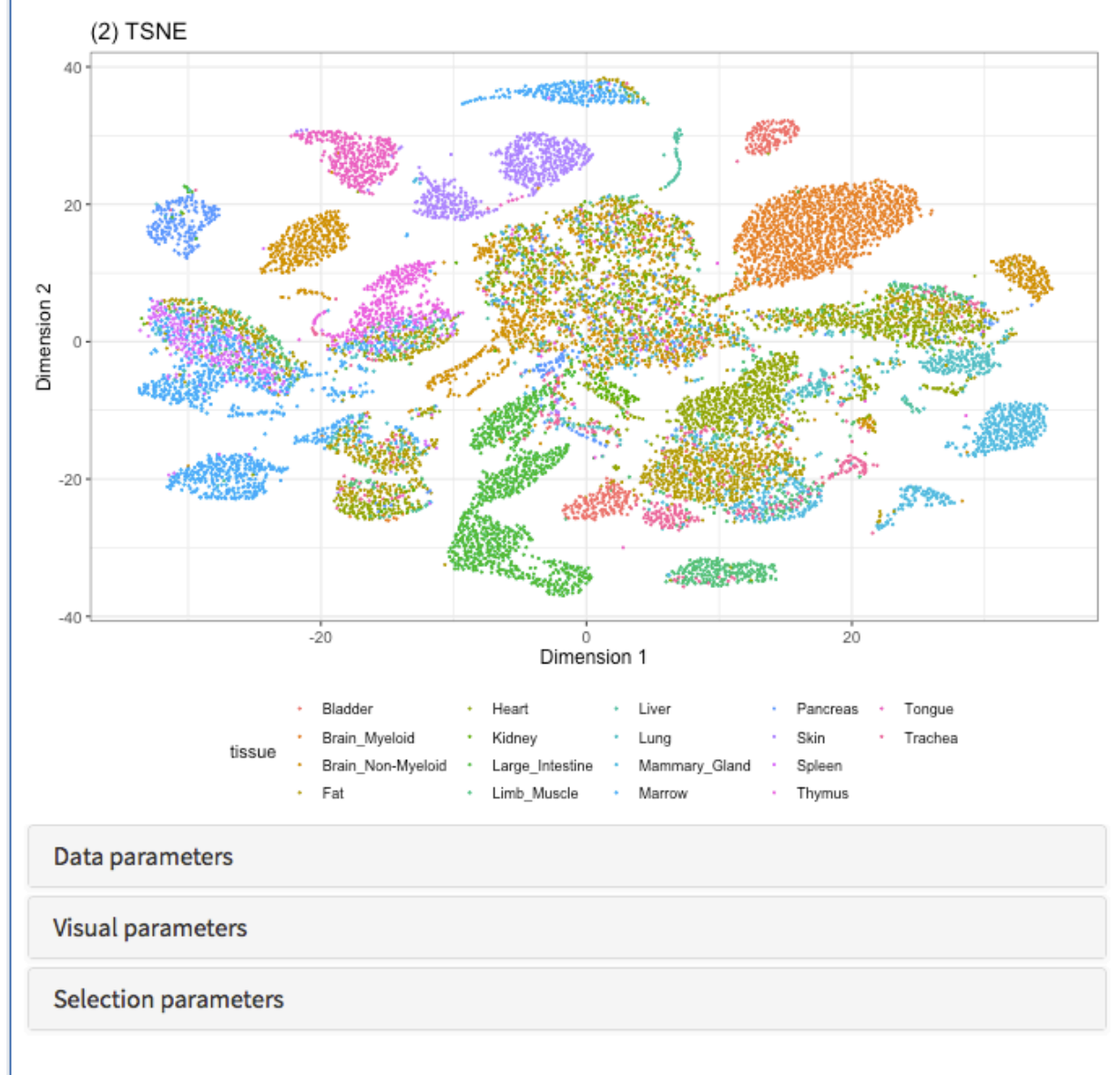
ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

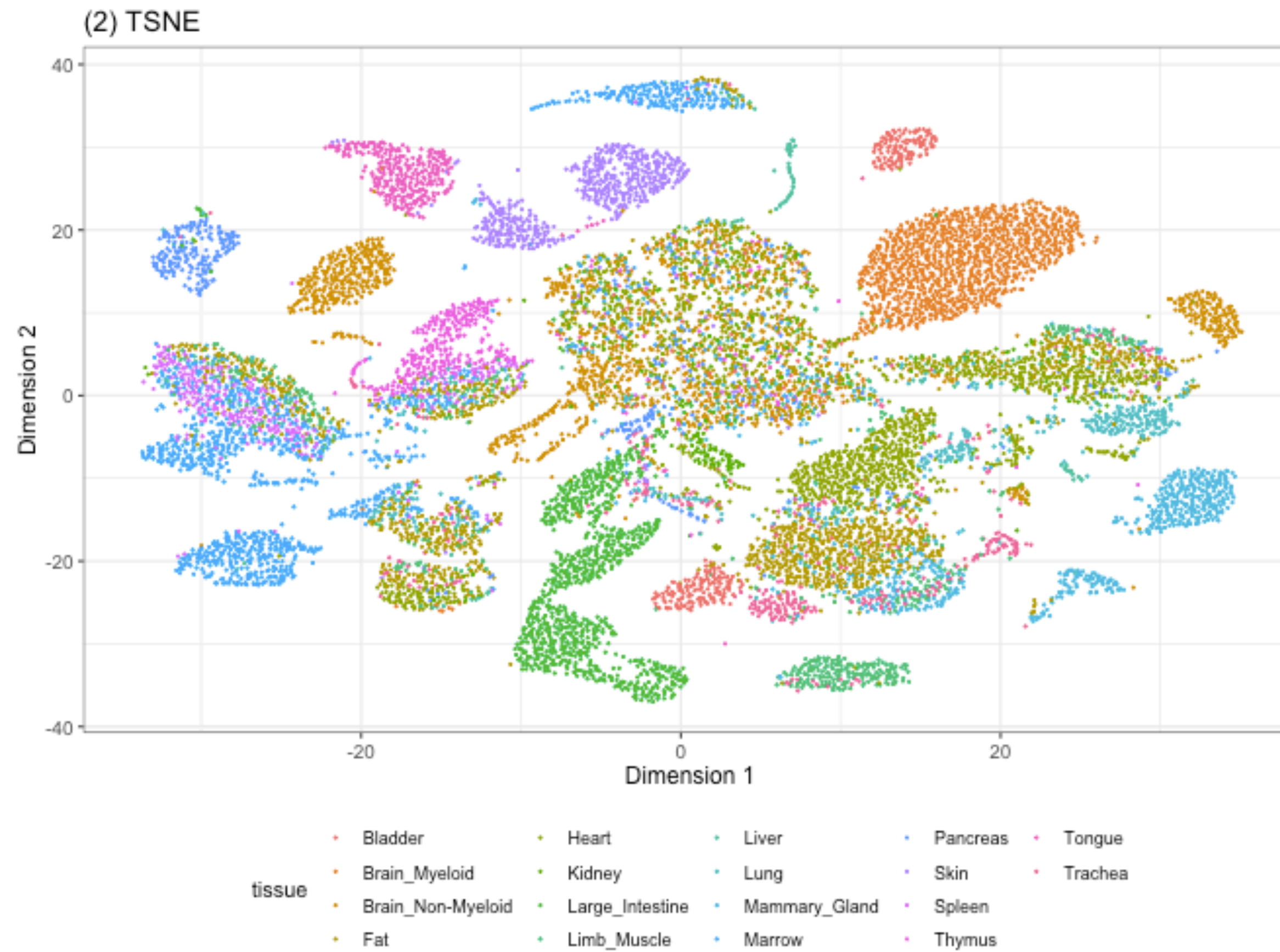
Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Reduced dimension plot 1



Reduced dimension plot 1

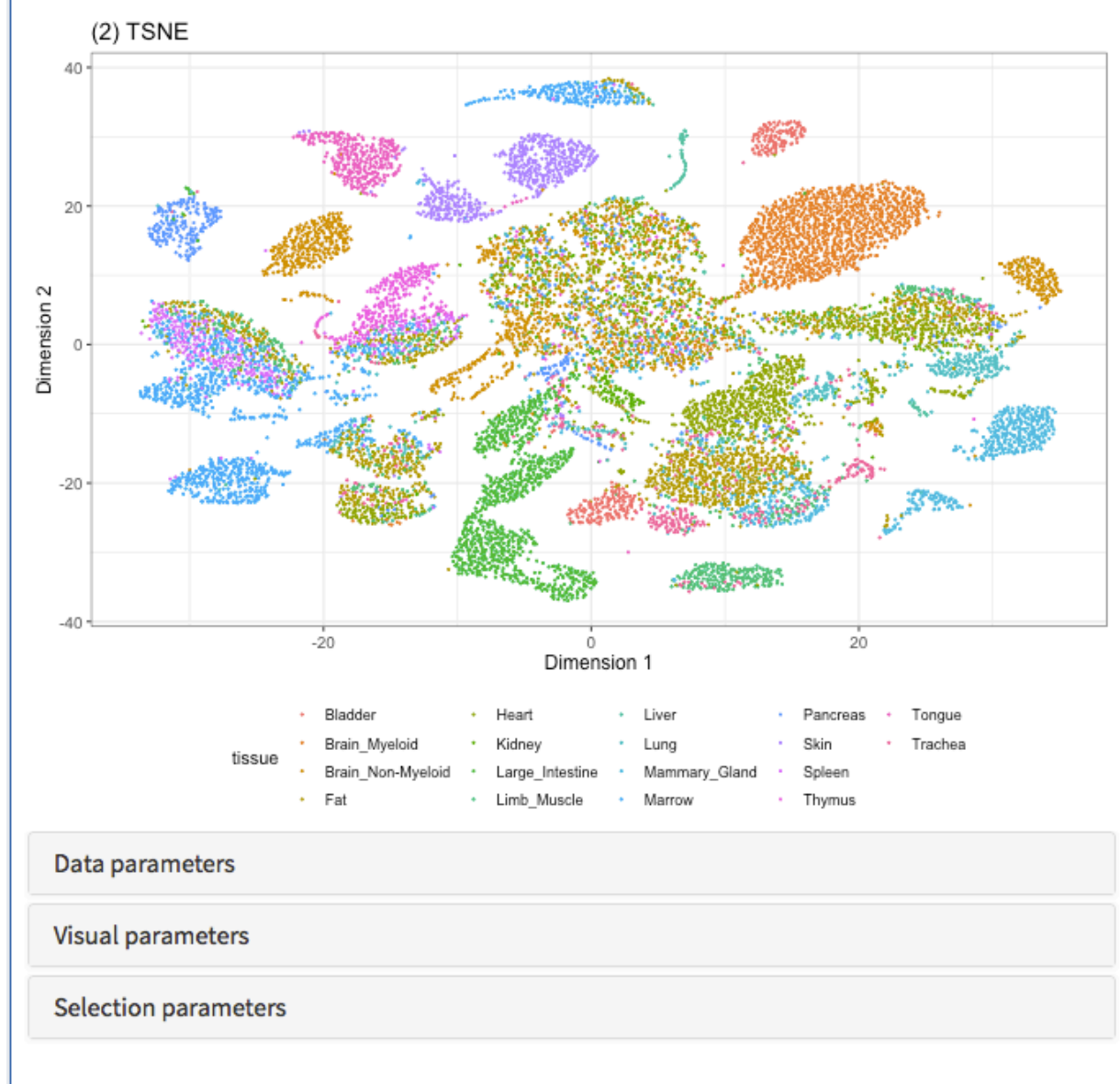


Data parameters

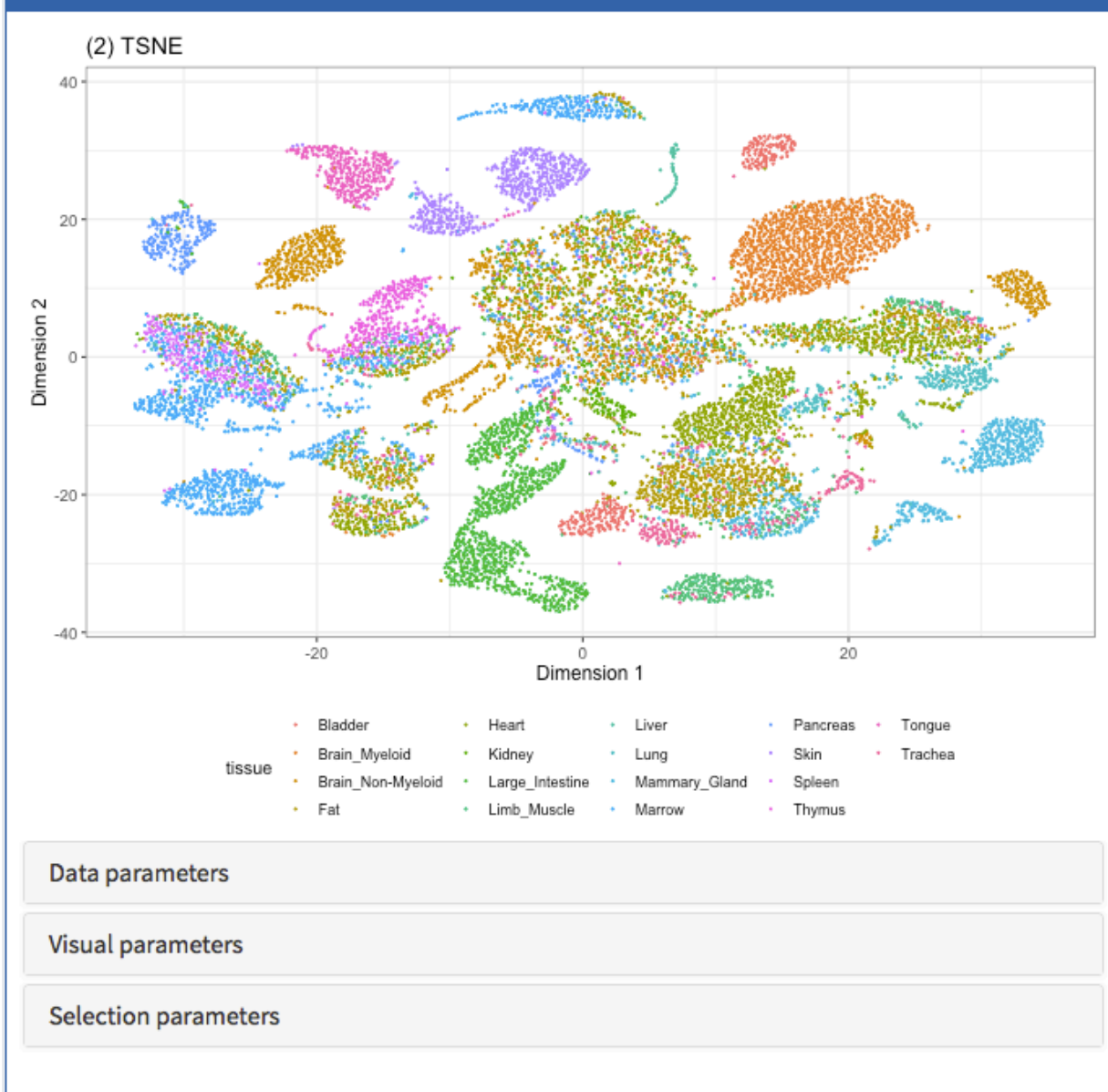
Visual parameters

Selection parameters

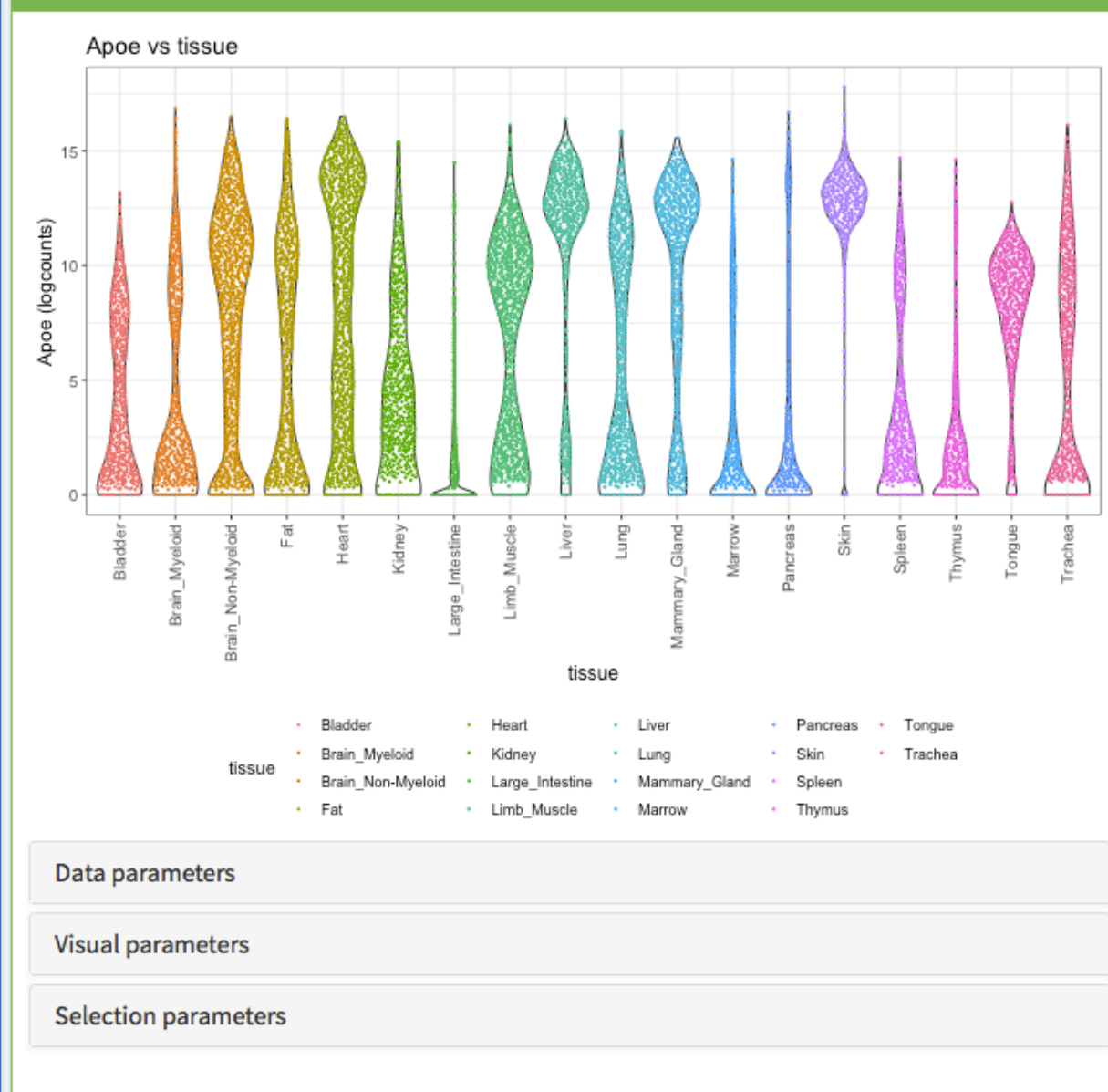
Reduced dimension plot 1



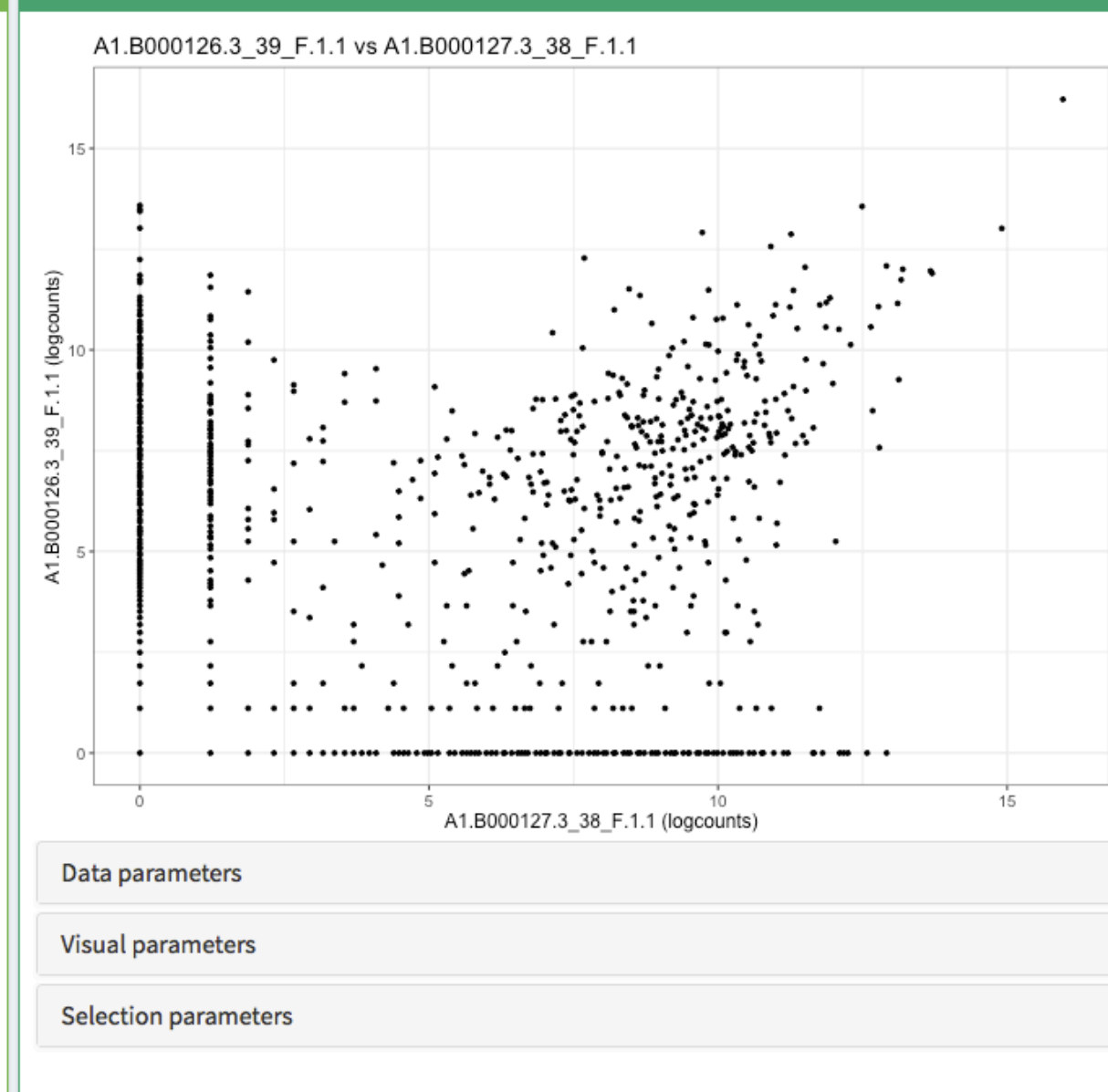
Reduced dimension plot 1



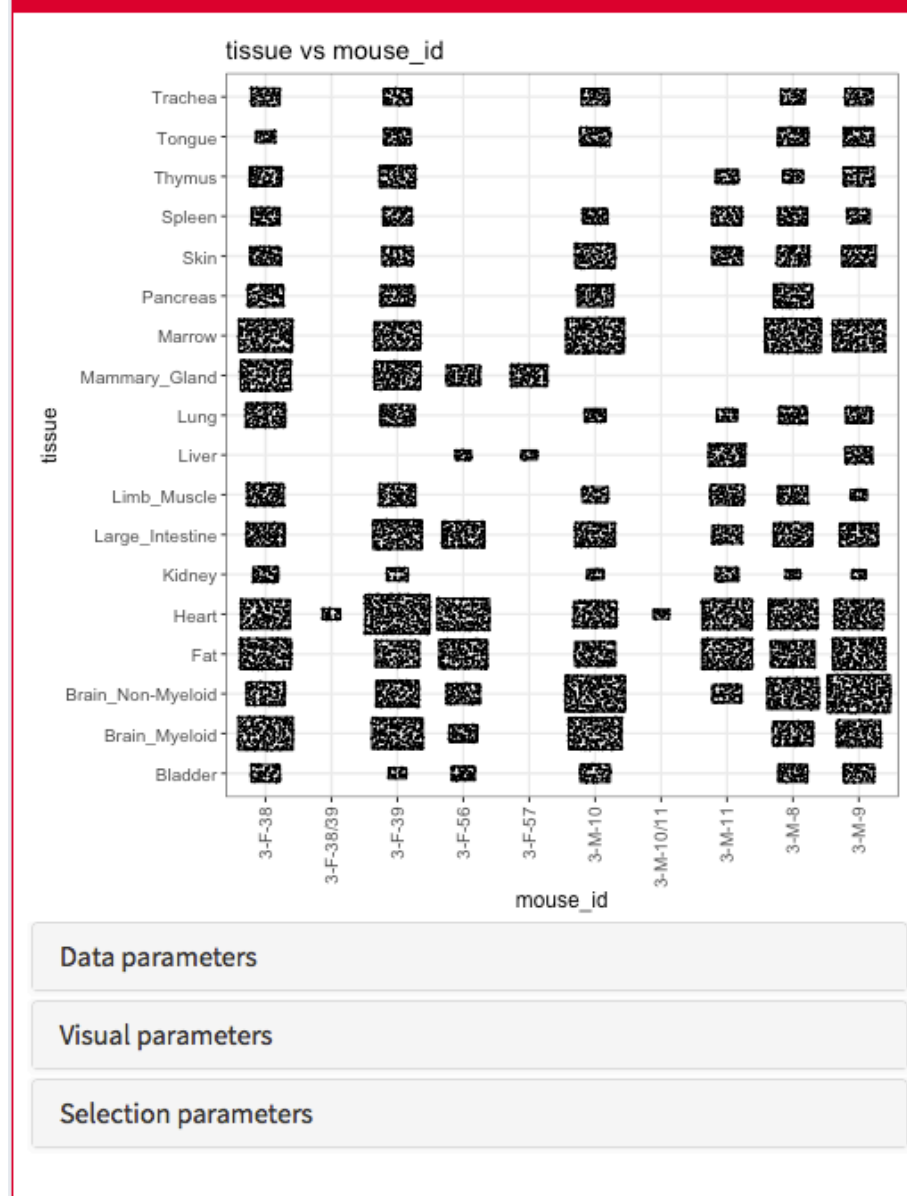
Feature assay plot 1



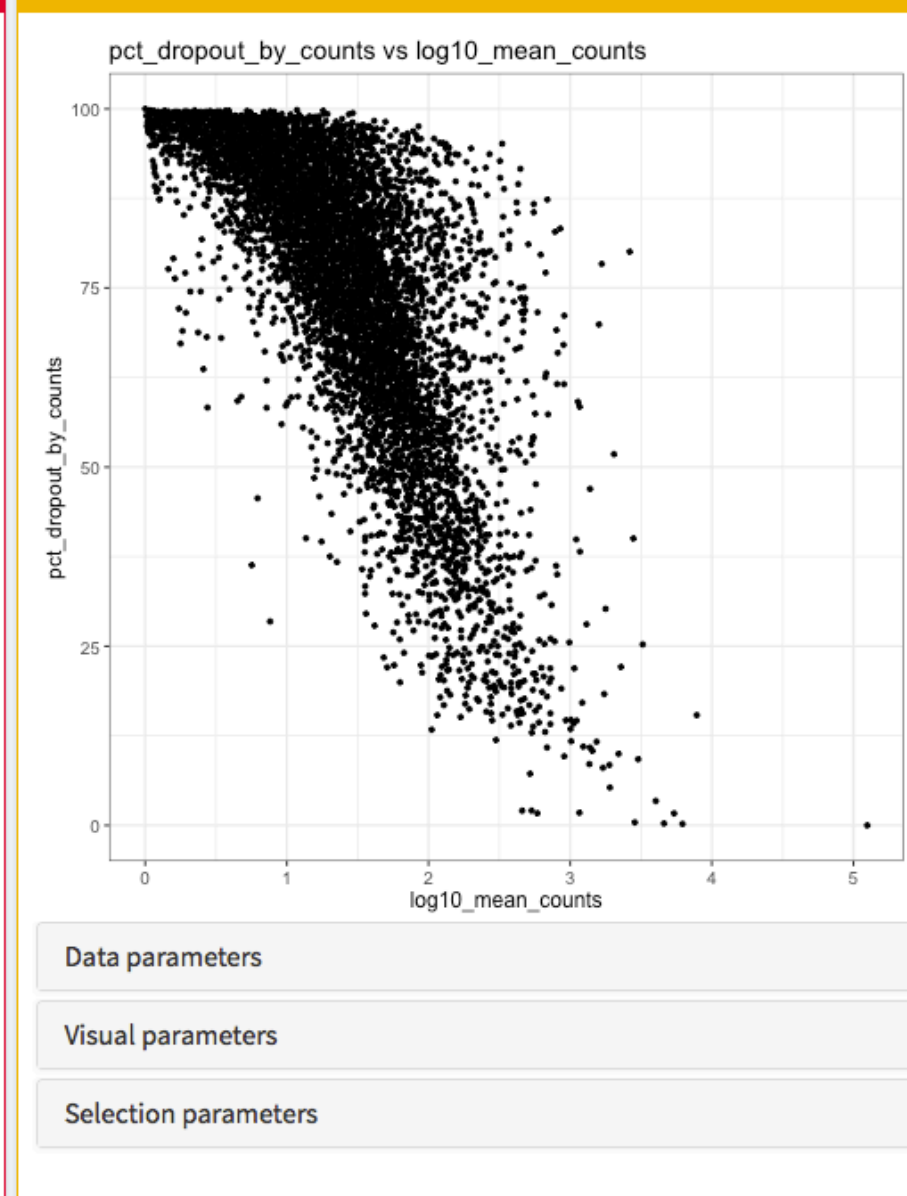
Sample assay plot 1



Column data plot 1



Row data plot 1



Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

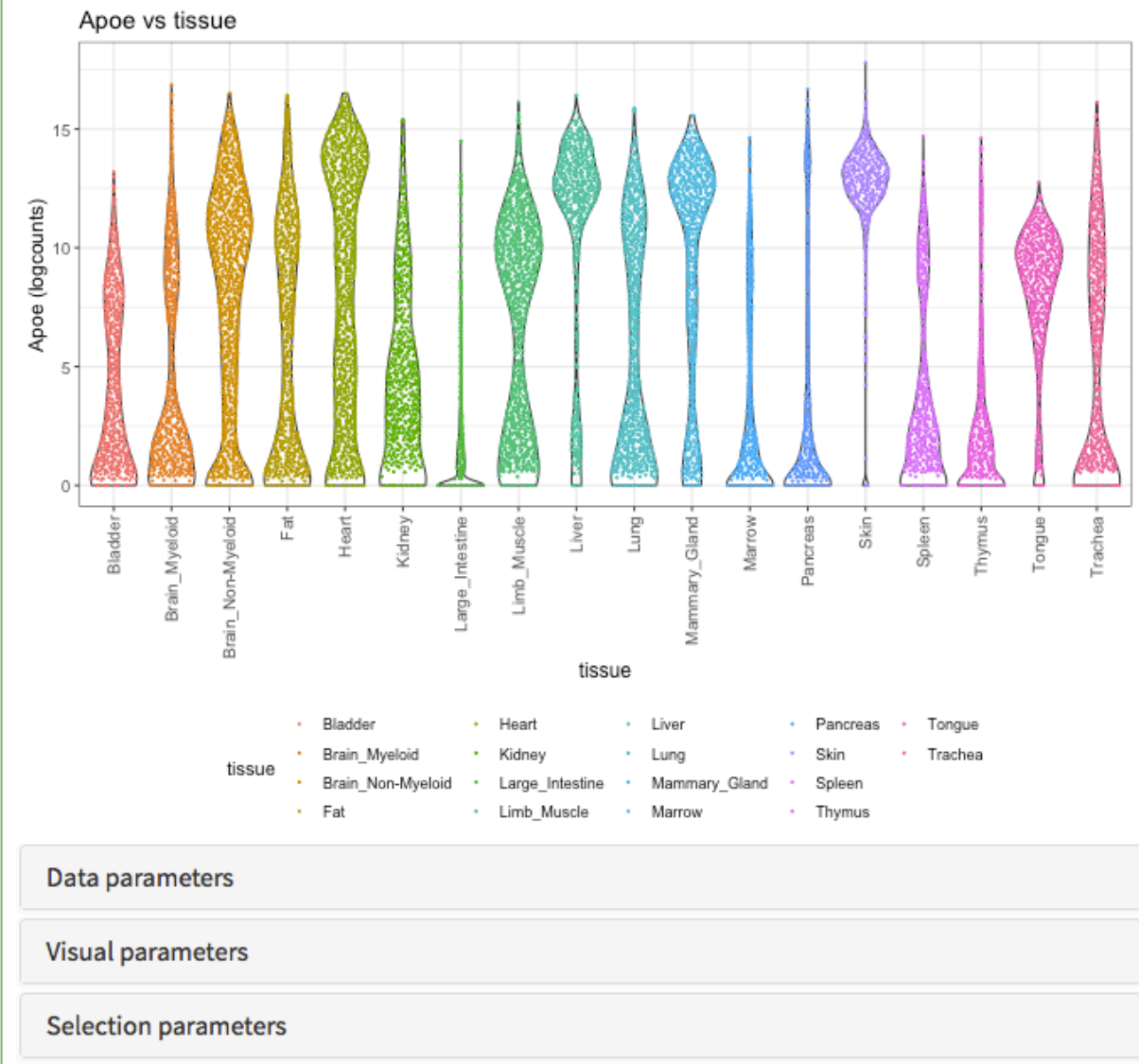
ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

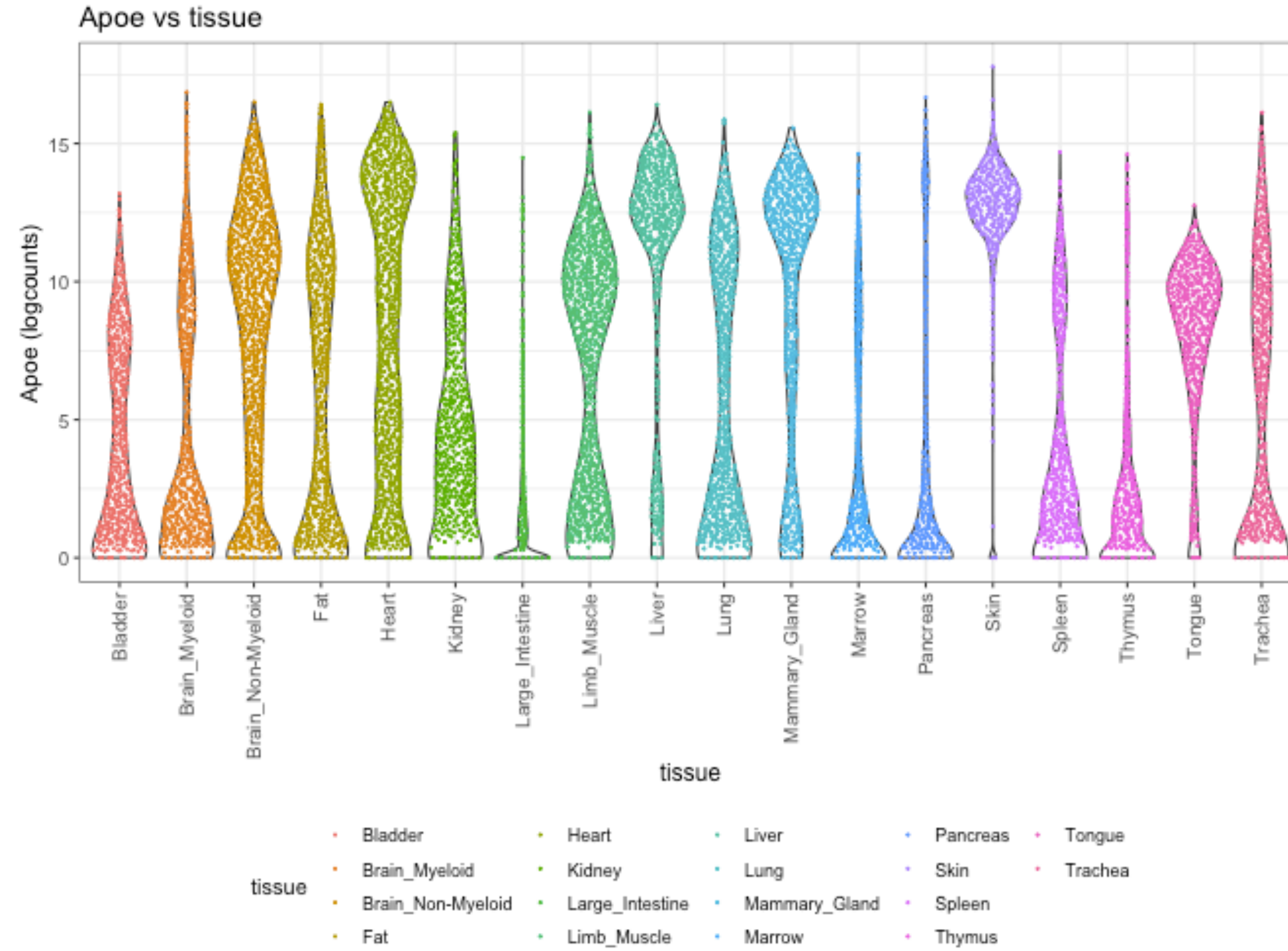
Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Feature assay plot 1



Feature assay plot 1

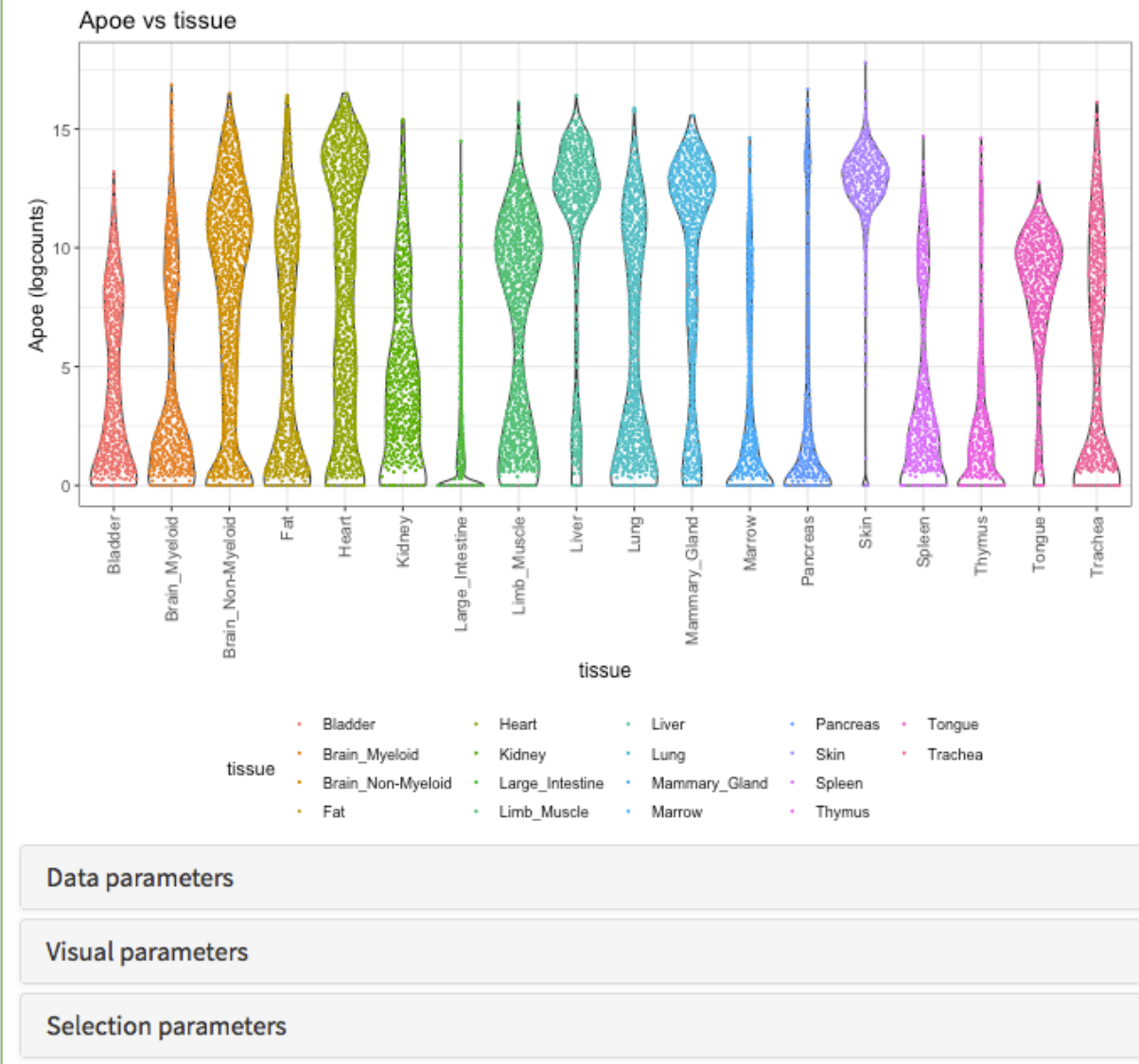


Data parameters

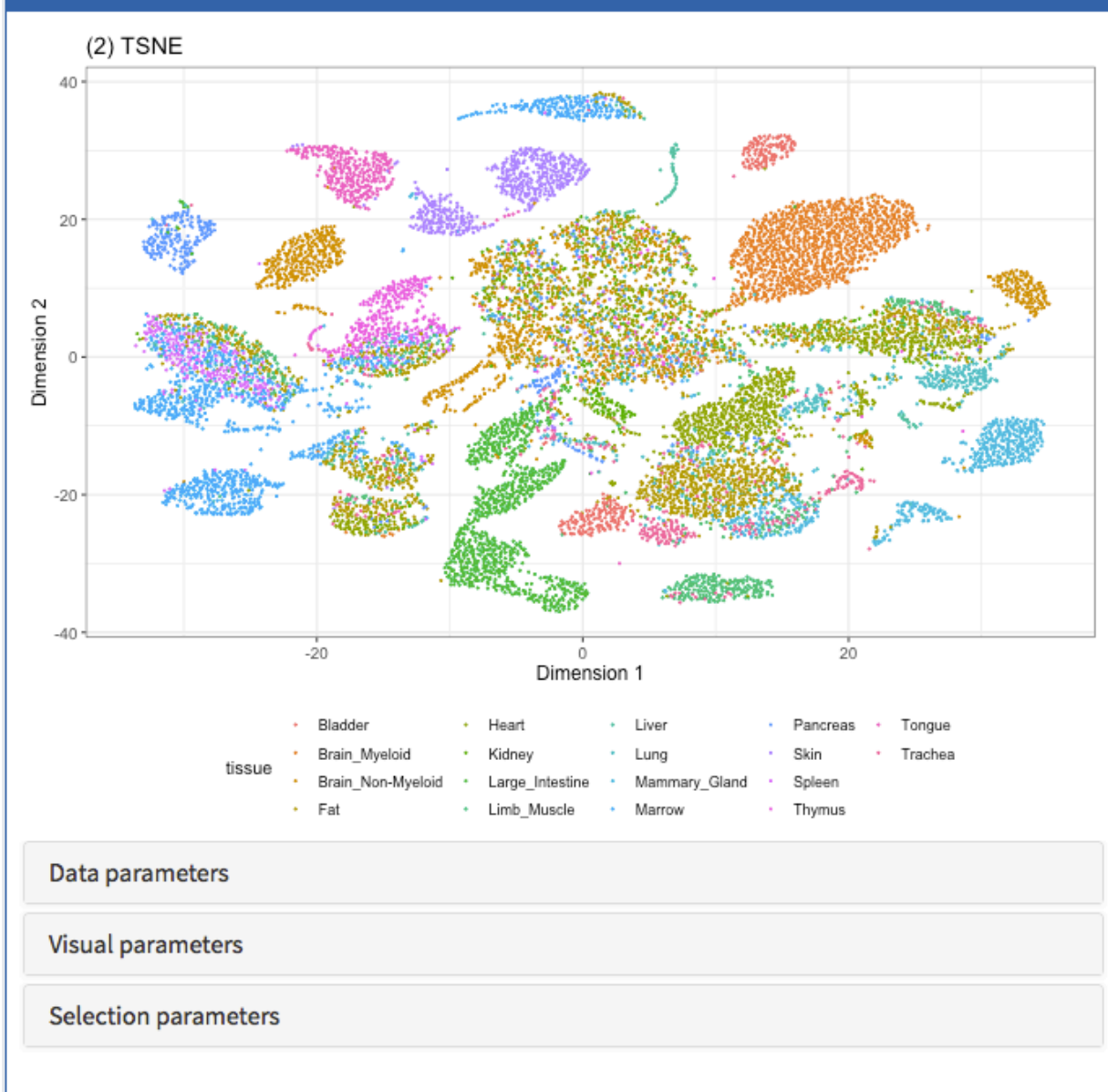
Visual parameters

Selection parameters

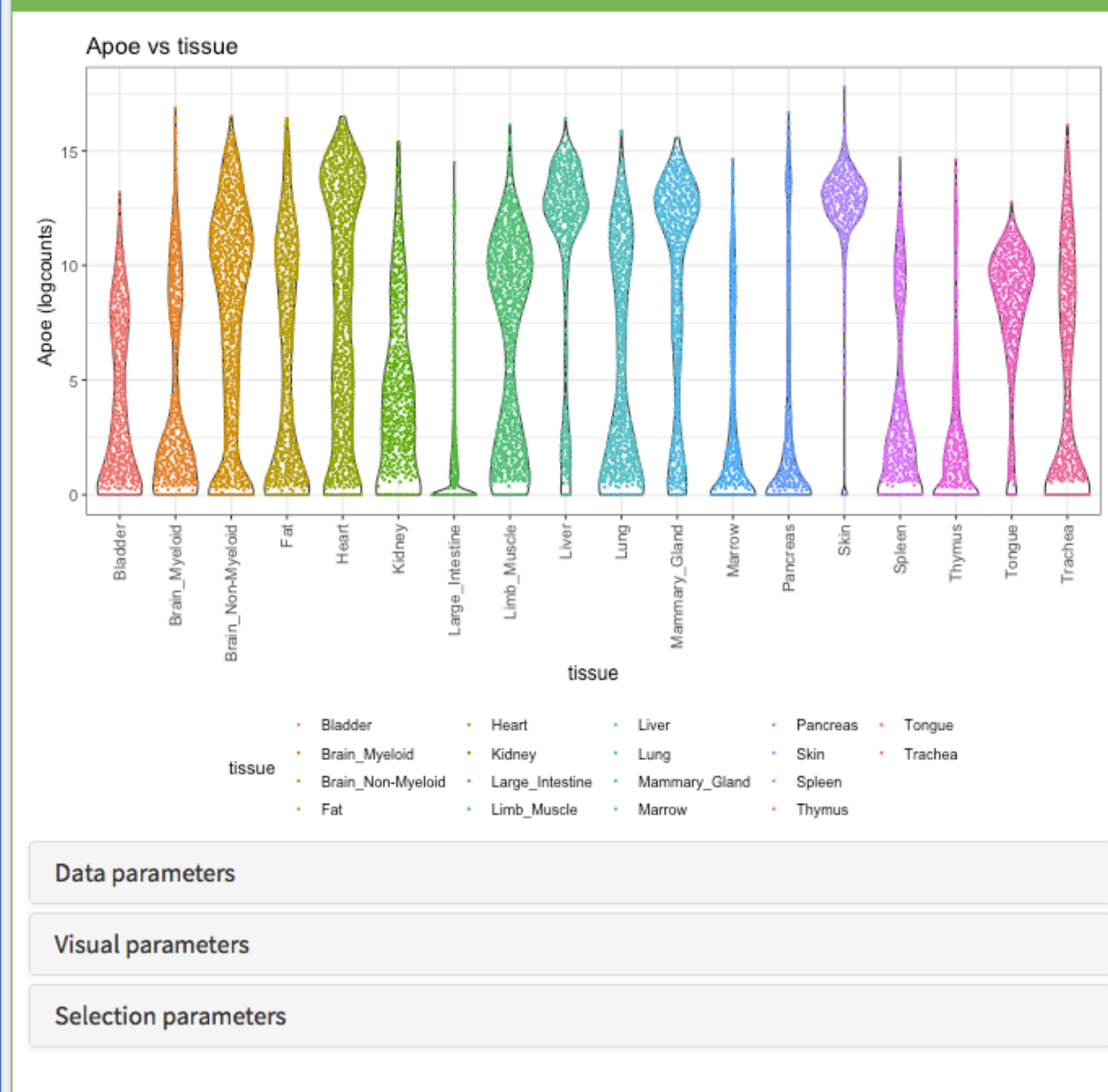
Feature assay plot 1



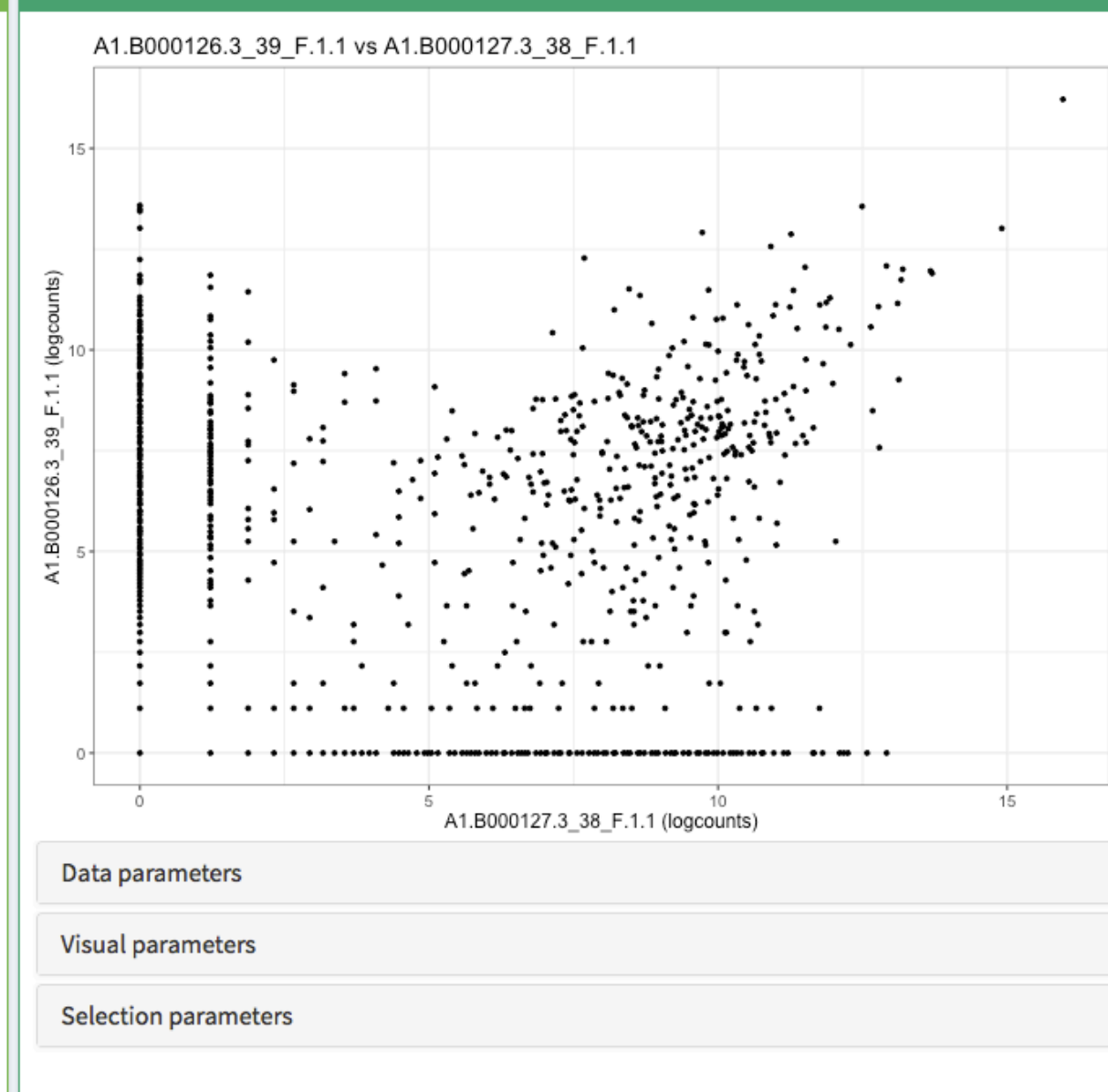
Reduced dimension plot 1



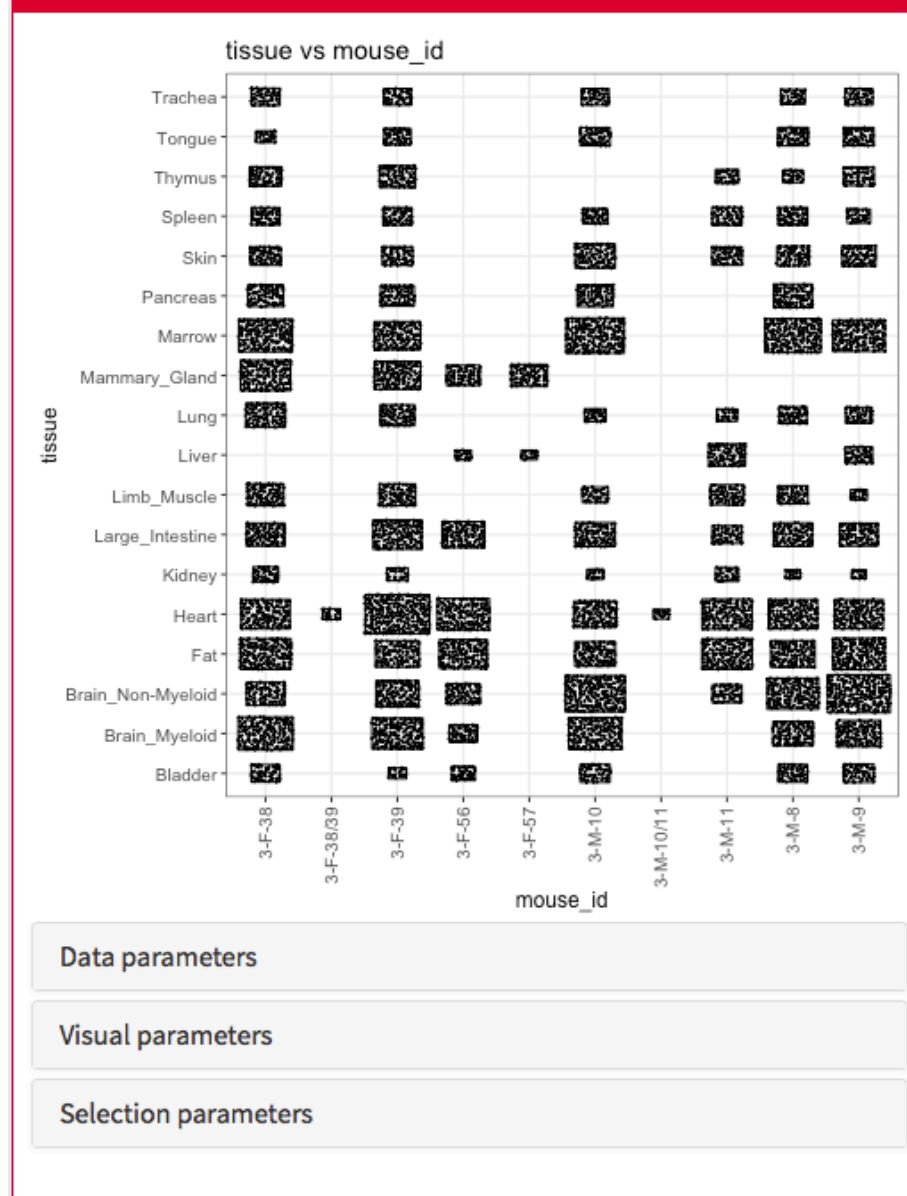
Feature assay plot 1



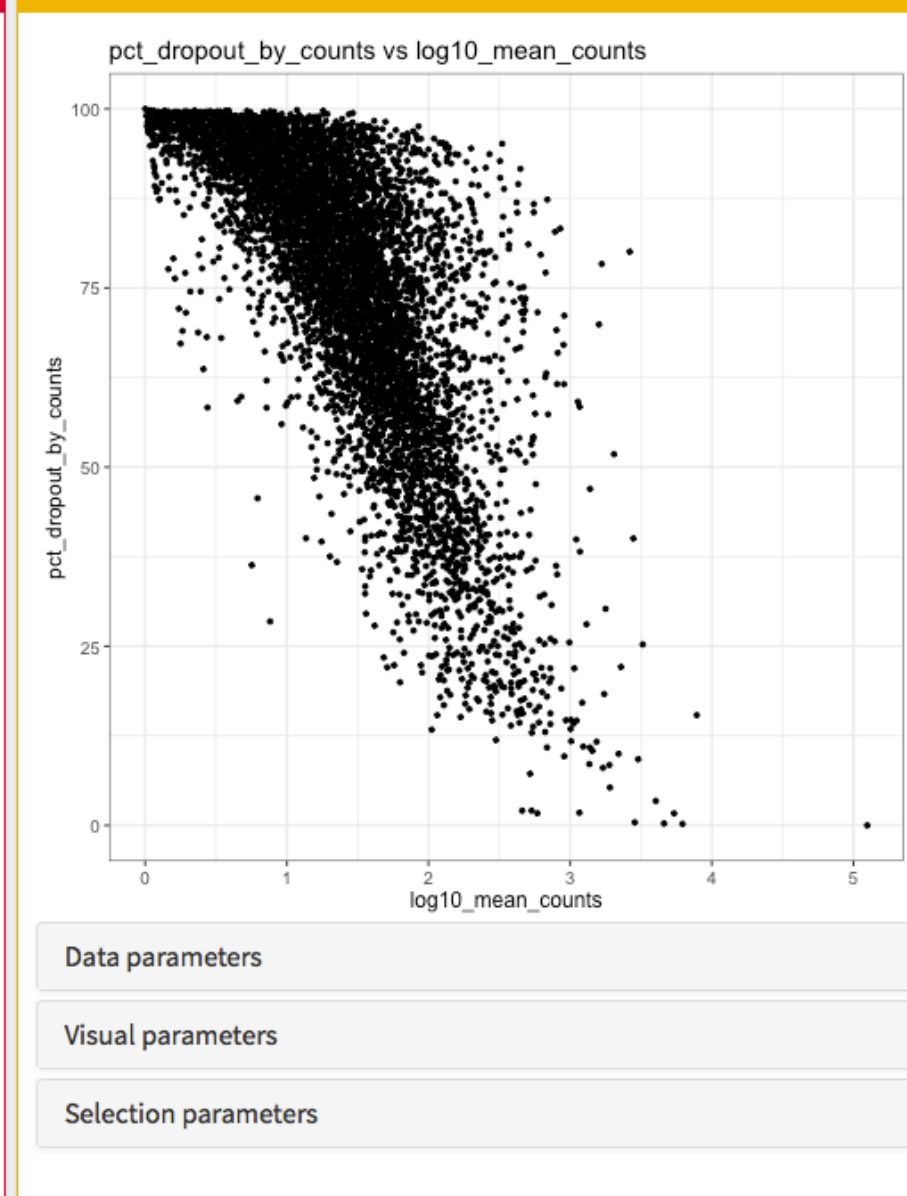
Sample assay plot 1



Column data plot 1



Row data plot 1



Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

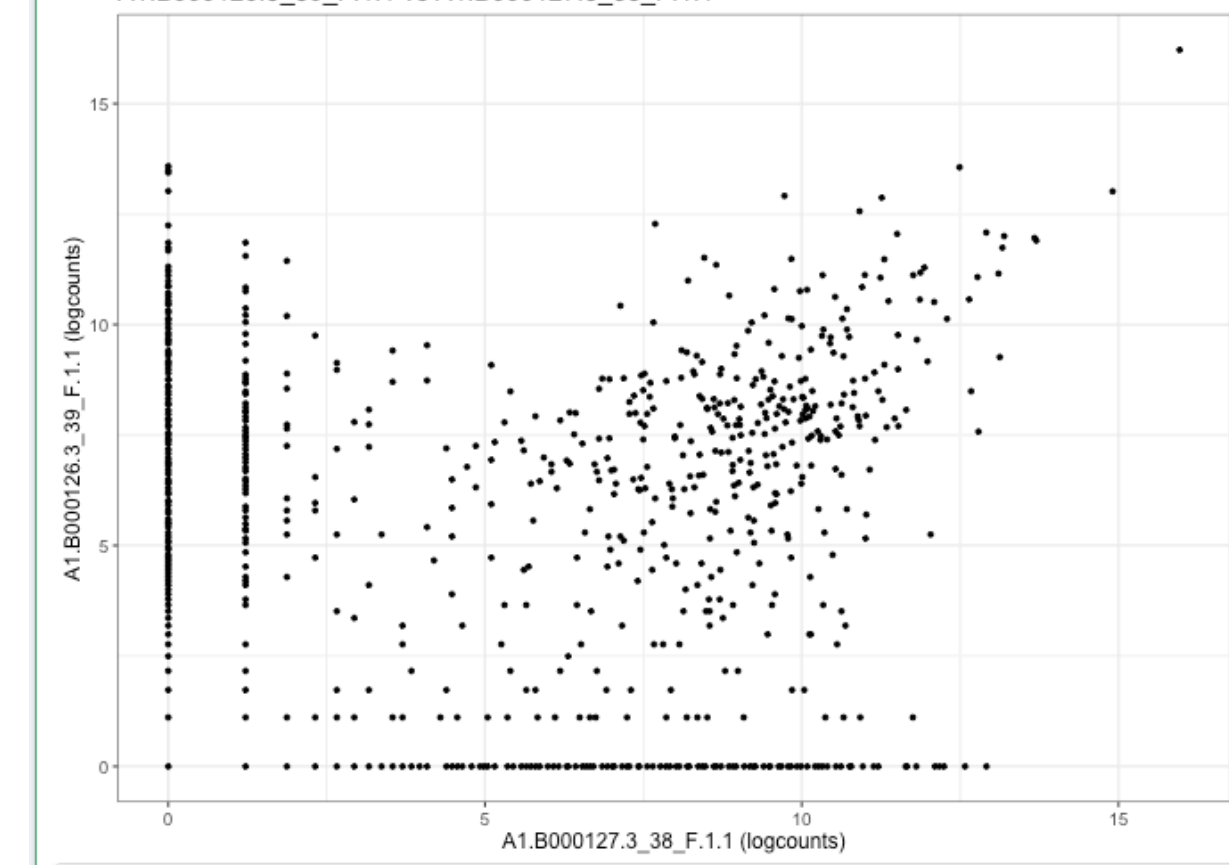
Showing 1 to 10 of 23,433 entries

Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Sample assay plot 1

A1.B000126.3_39_F.1.1 vs A1.B000127.3_38_F.1.1



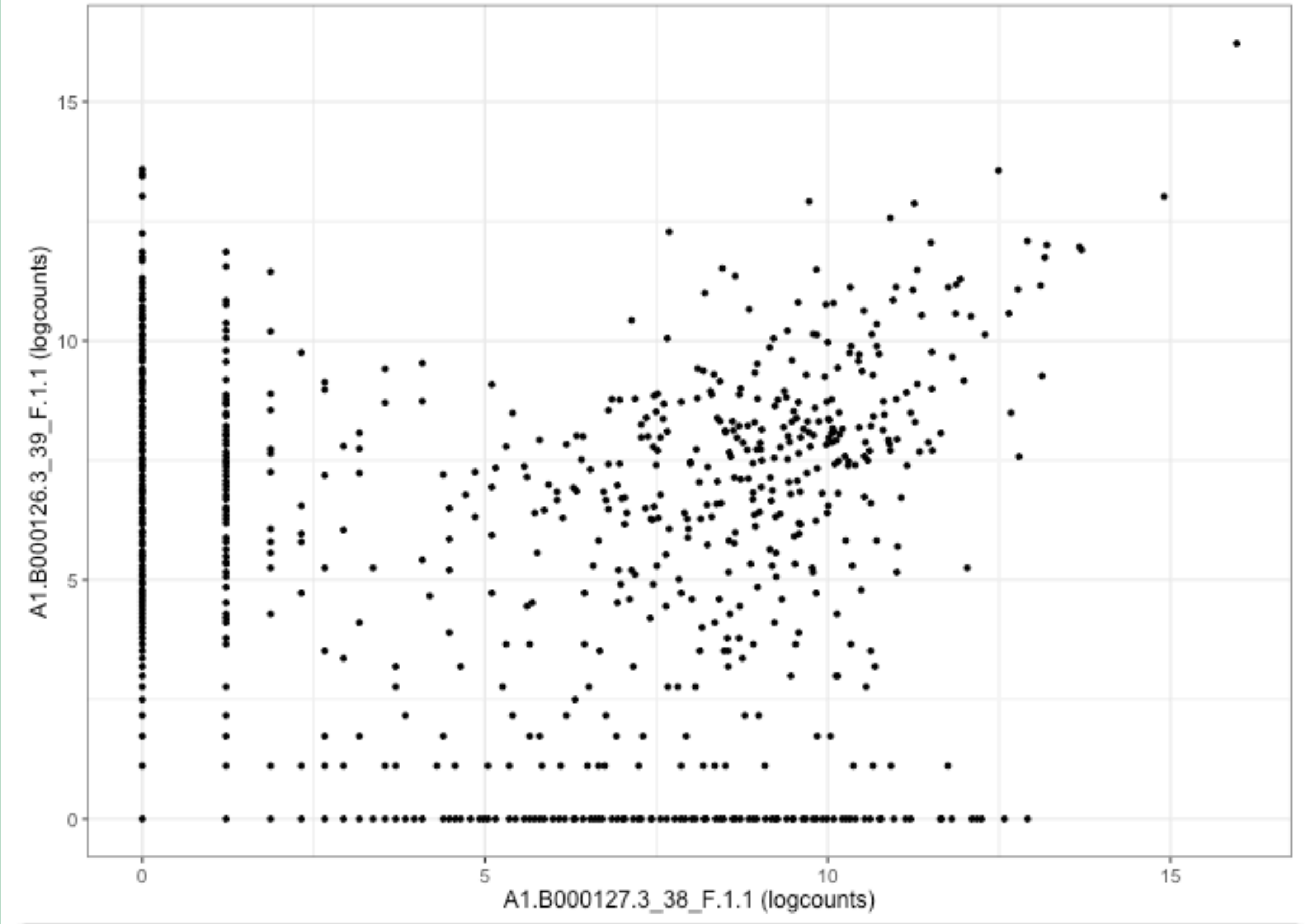
Data parameters

Visual parameters

Selection parameters

Sample assay plot 1

A1.B000126.3_39_F.1.1 vs A1.B000127.3_38_F.1.1



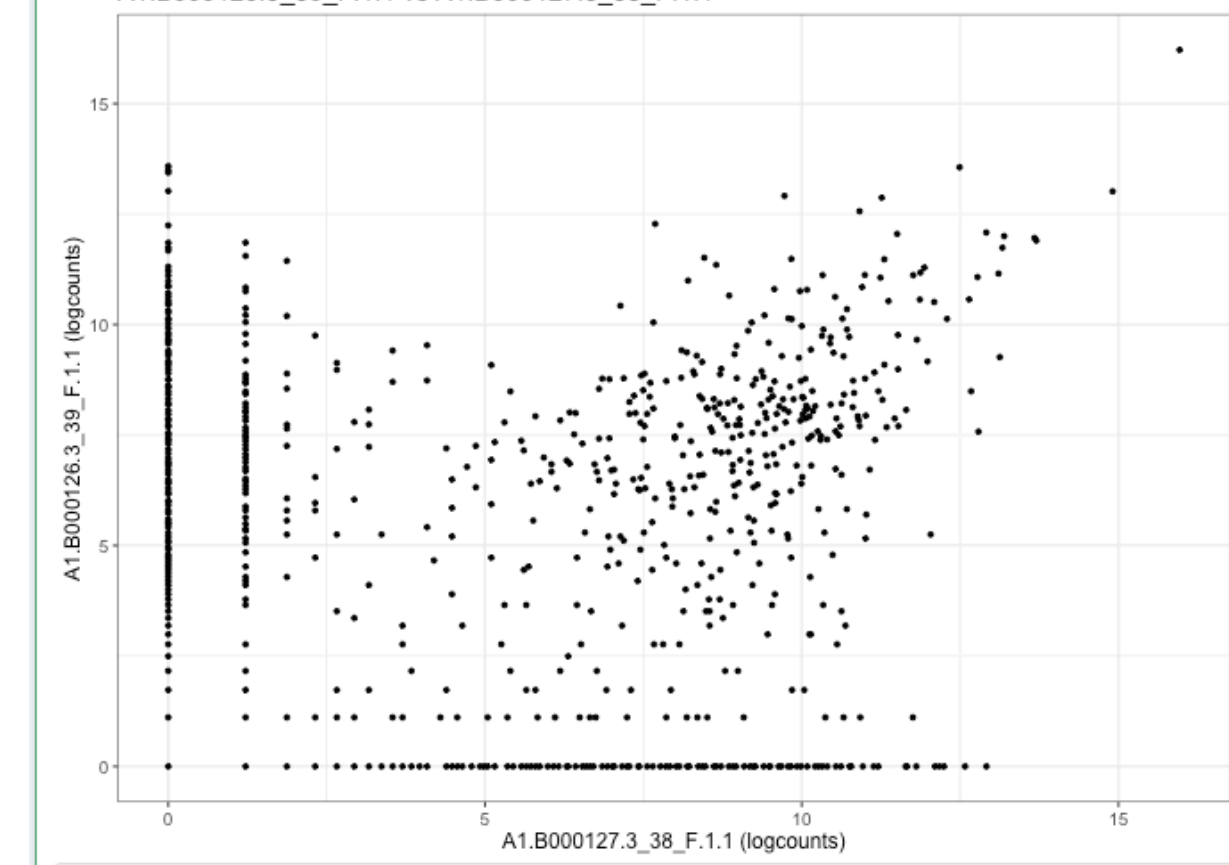
Data parameters

Visual parameters

Selection parameters

Sample assay plot 1

A1.B000126.3_39_F.1.1 vs A1.B000127.3_38_F.1.1

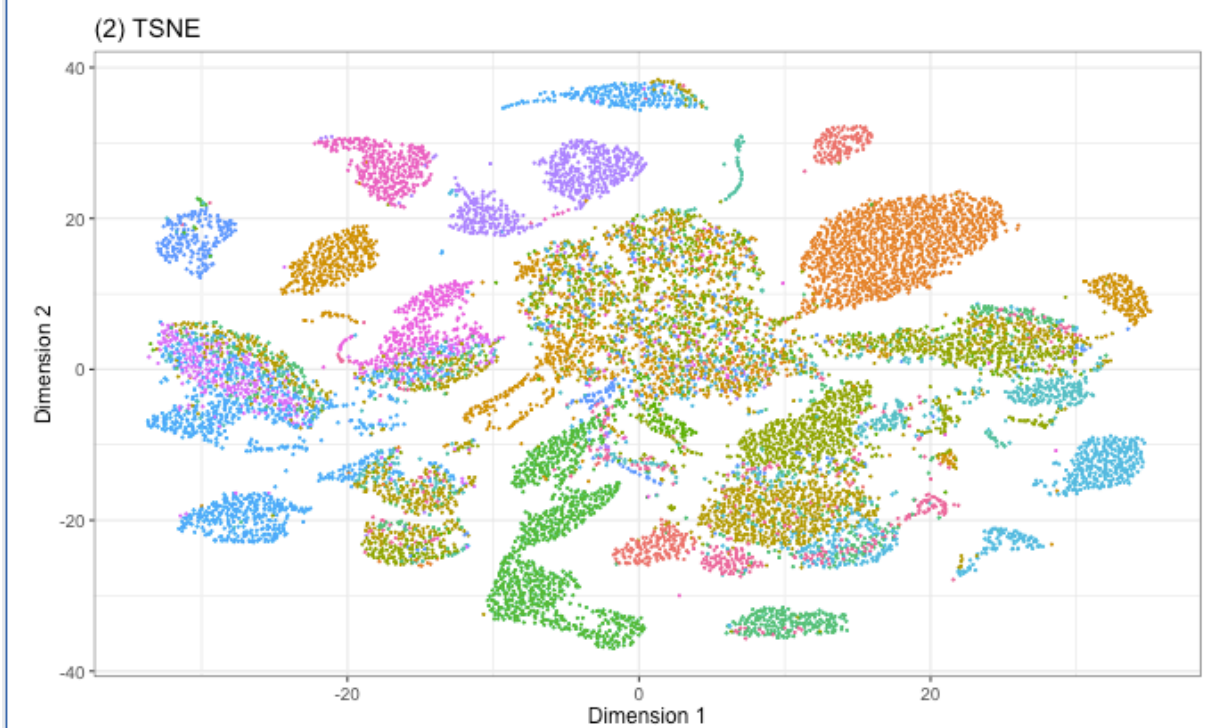


Data parameters

Visual parameters

Selection parameters

Reduced dimension plot 1



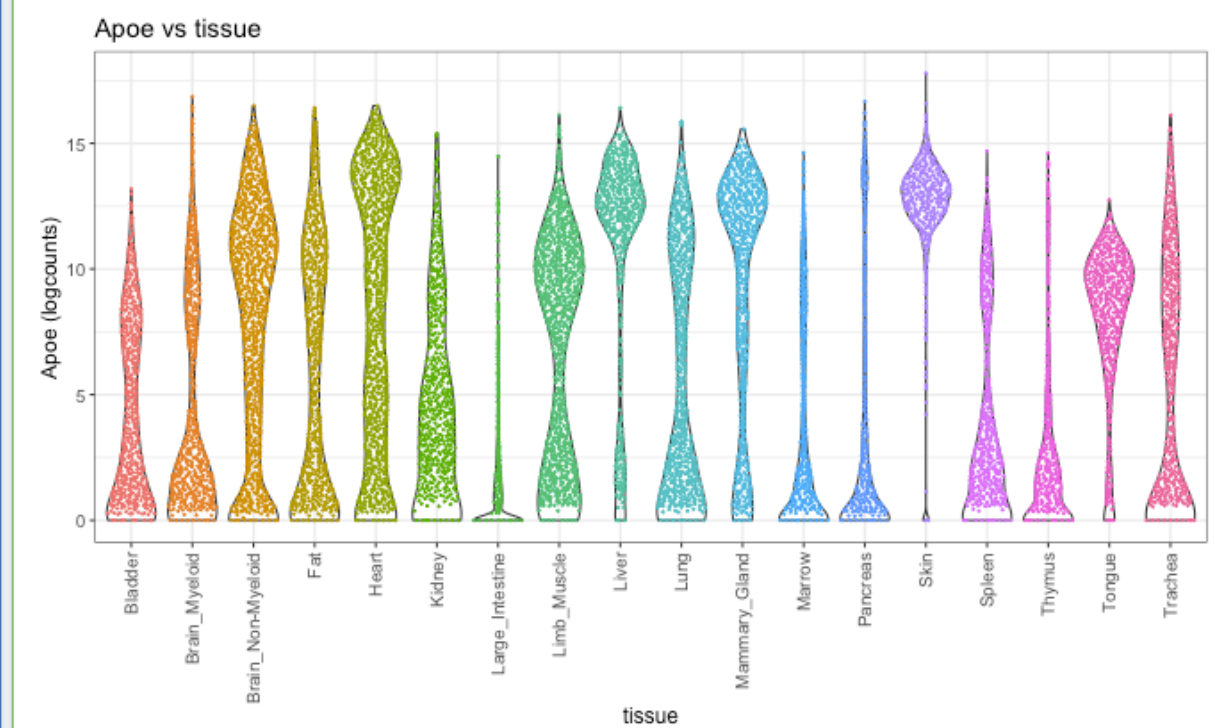
- Bladder
- Brain_Myeloid
- Brain_Non-Myeloid
- Fat
- Heart
- Kidney
- Large_Intestine
- Limb_Muscle
- Liver
- Lung
- Mammary_Gland
- Marrow
- Pancreas
- Skin
- Spleen
- Thymus
- Tongue
- Trachea

Data parameters

Visual parameters

Selection parameters

Feature assay plot 1



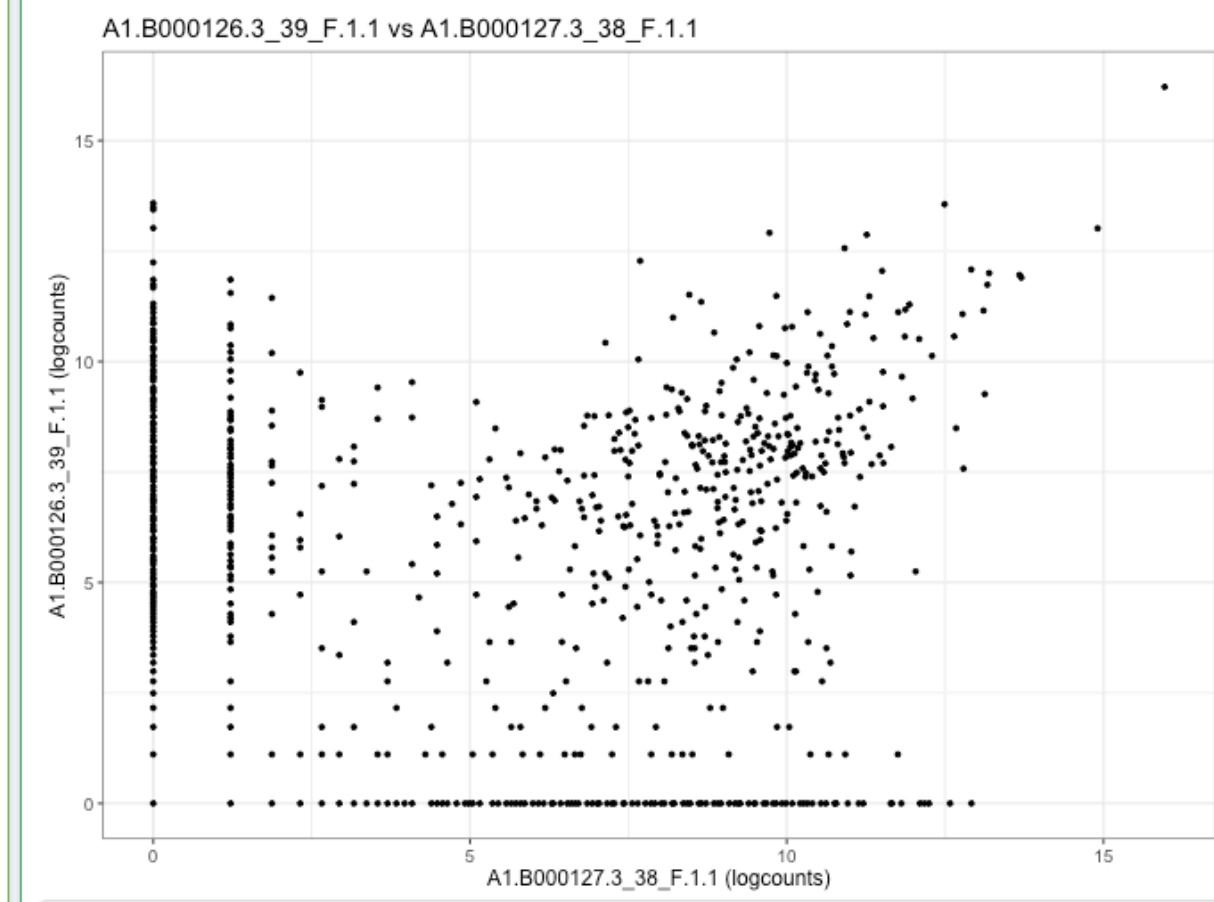
- Bladder
- Brain_Myeloid
- Brain_Non-Myeloid
- Fat
- Heart
- Kidney
- Large_Intestine
- Limb_Muscle
- Liver
- Lung
- Mammary_Gland
- Marrow
- Pancreas
- Skin
- Spleen
- Thymus
- Tongue
- Trachea

Data parameters

Visual parameters

Selection parameters

Sample assay plot 1

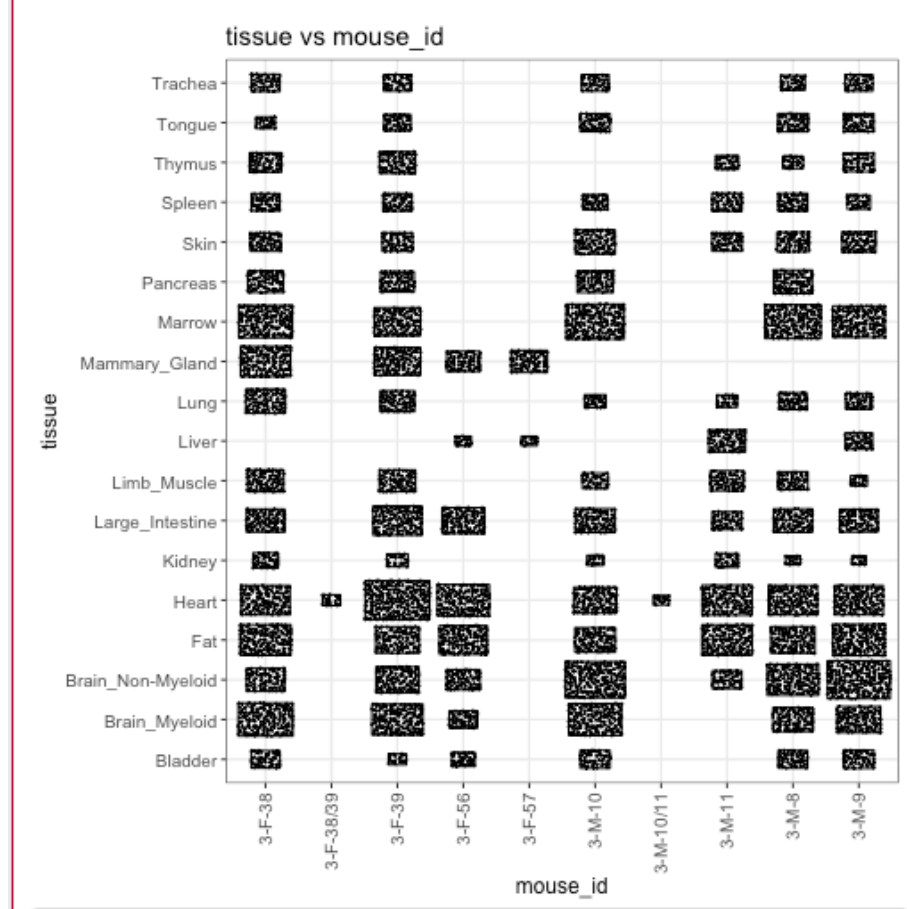


Data parameters

Visual parameters

Selection parameters

Column data plot 1

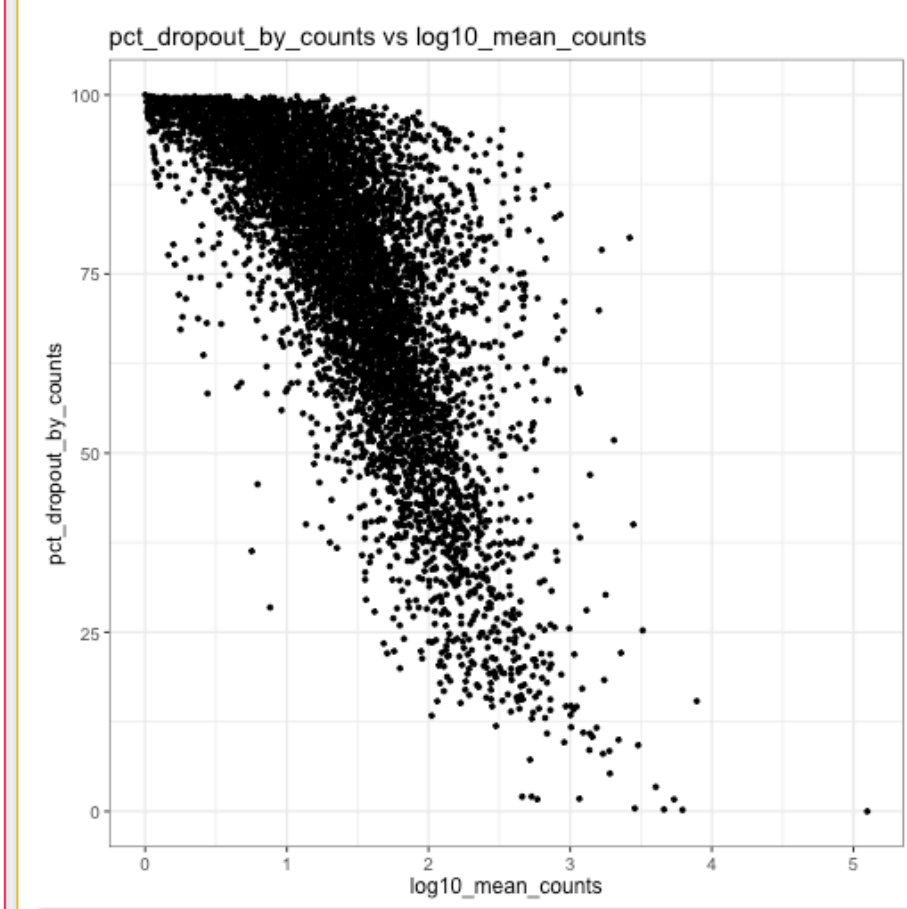


Data parameters

Visual parameters

Selection parameters

Row data plot 1



Data parameters

Visual parameters

Selection parameters

Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

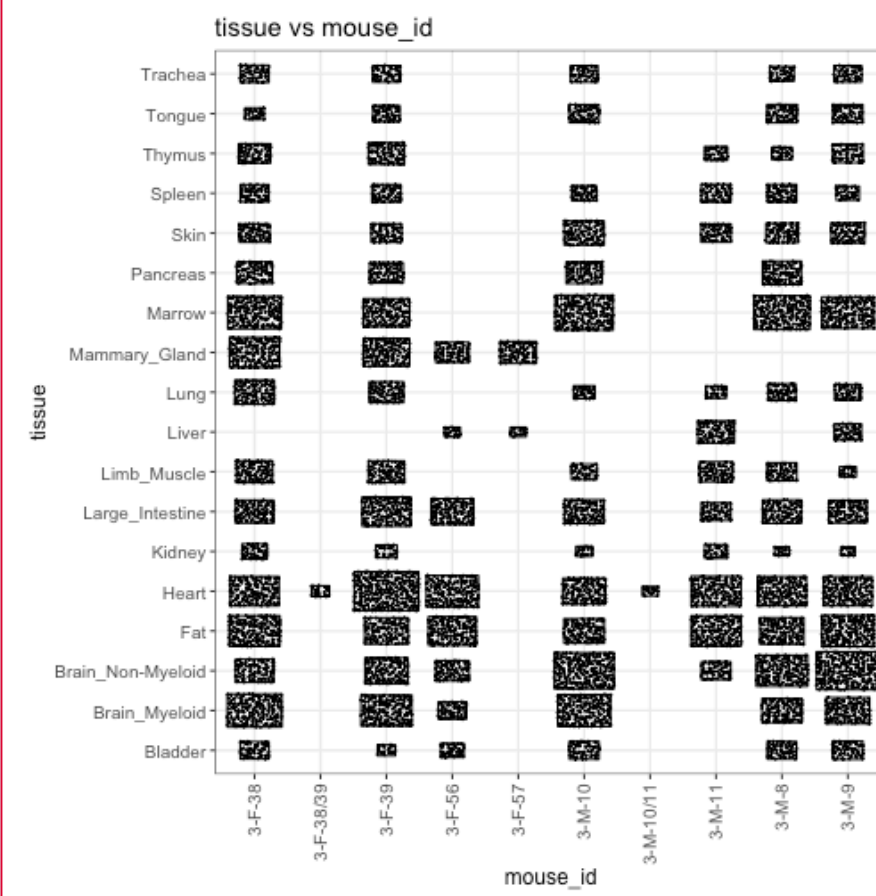
ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Column data plot 1

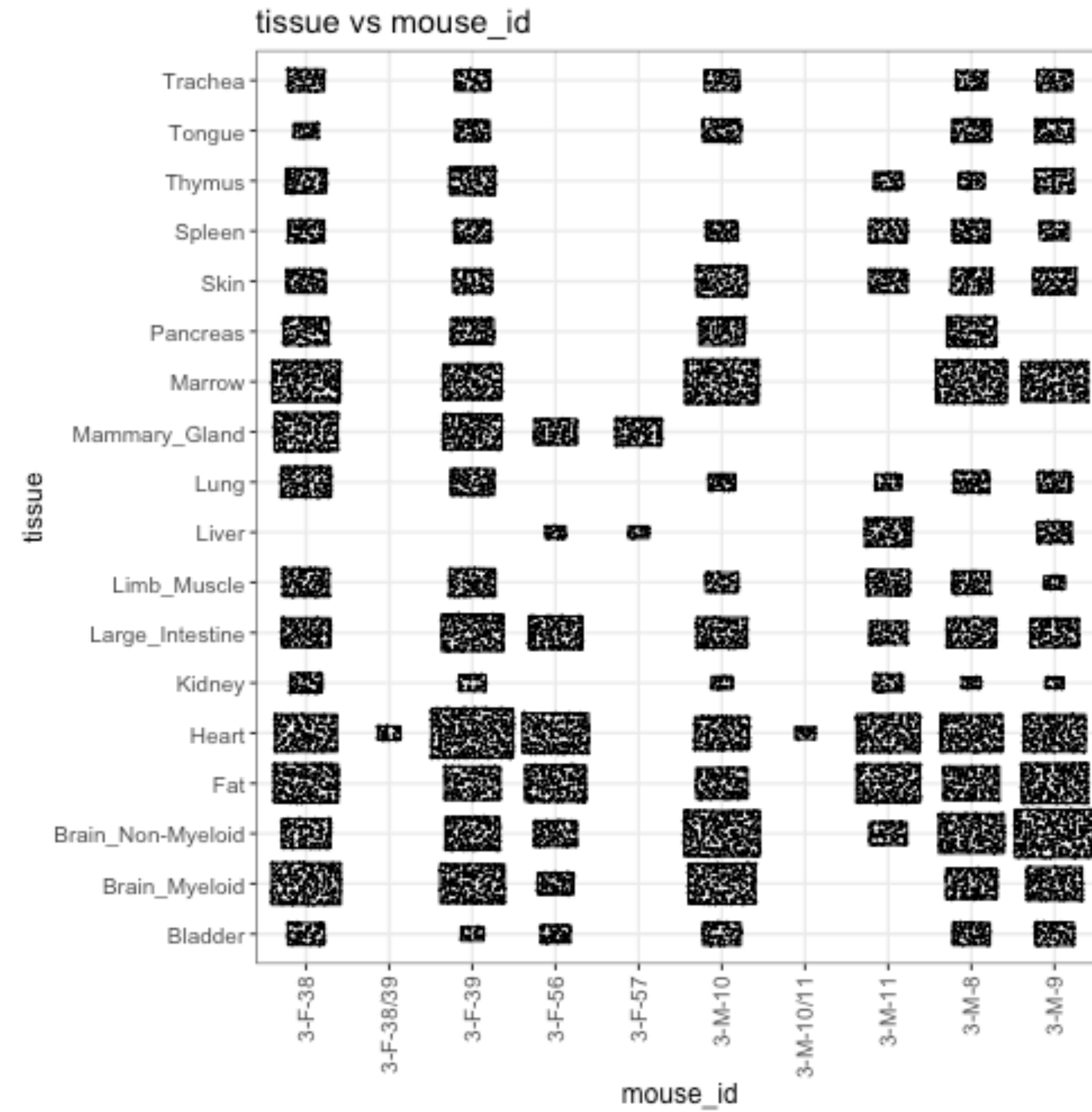


Data parameters

Visual parameters

Selection parameters

Column data plot 1

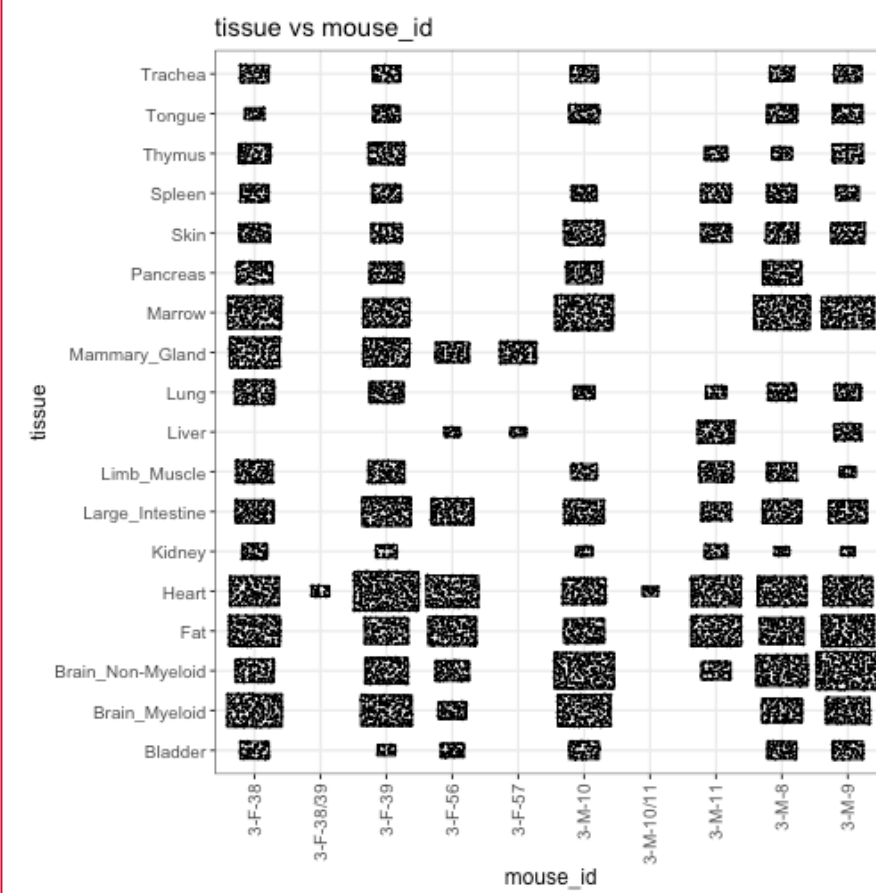


Data parameters

Visual parameters

Selection parameters

Column data plot 1

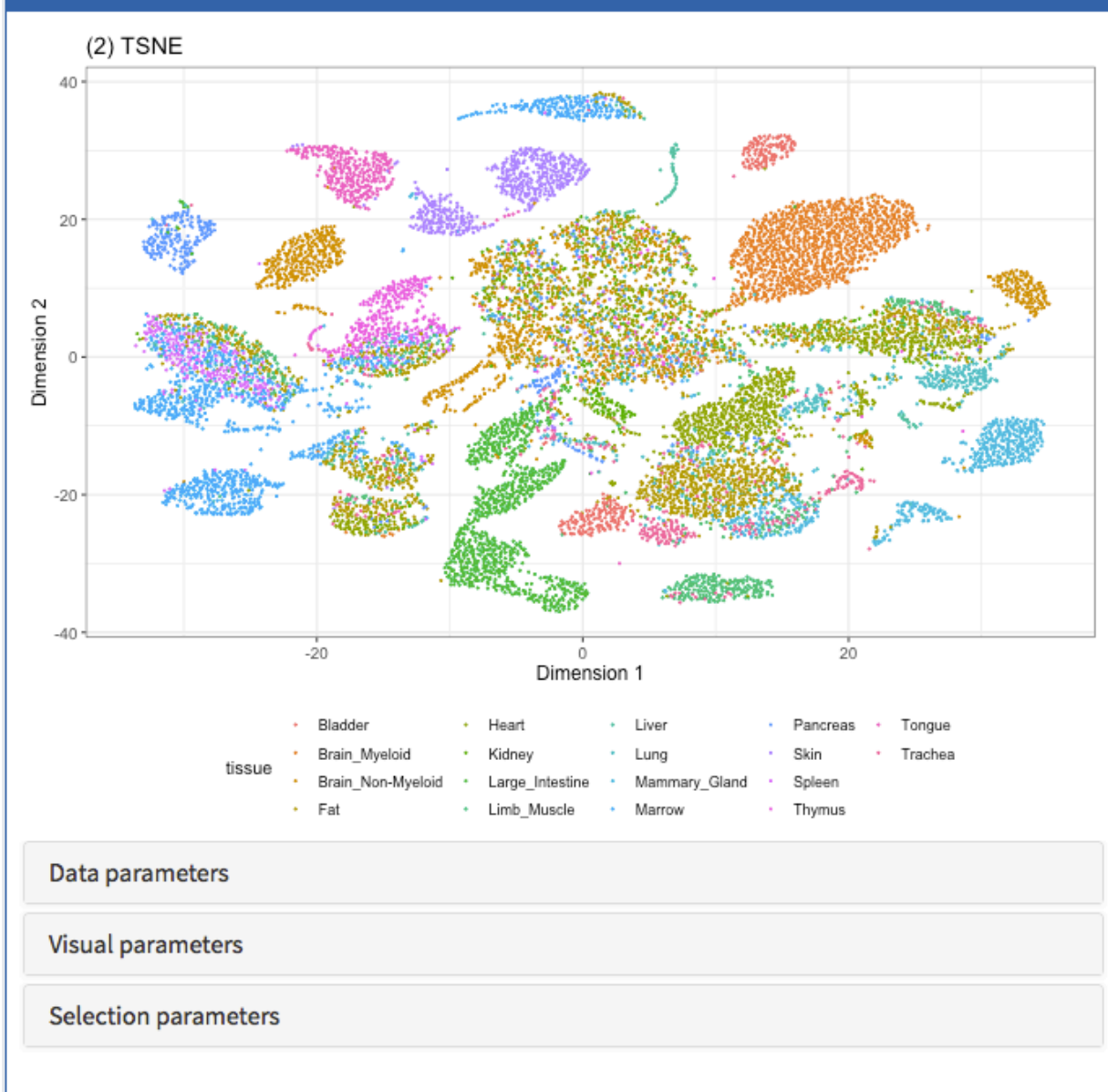


Data parameters

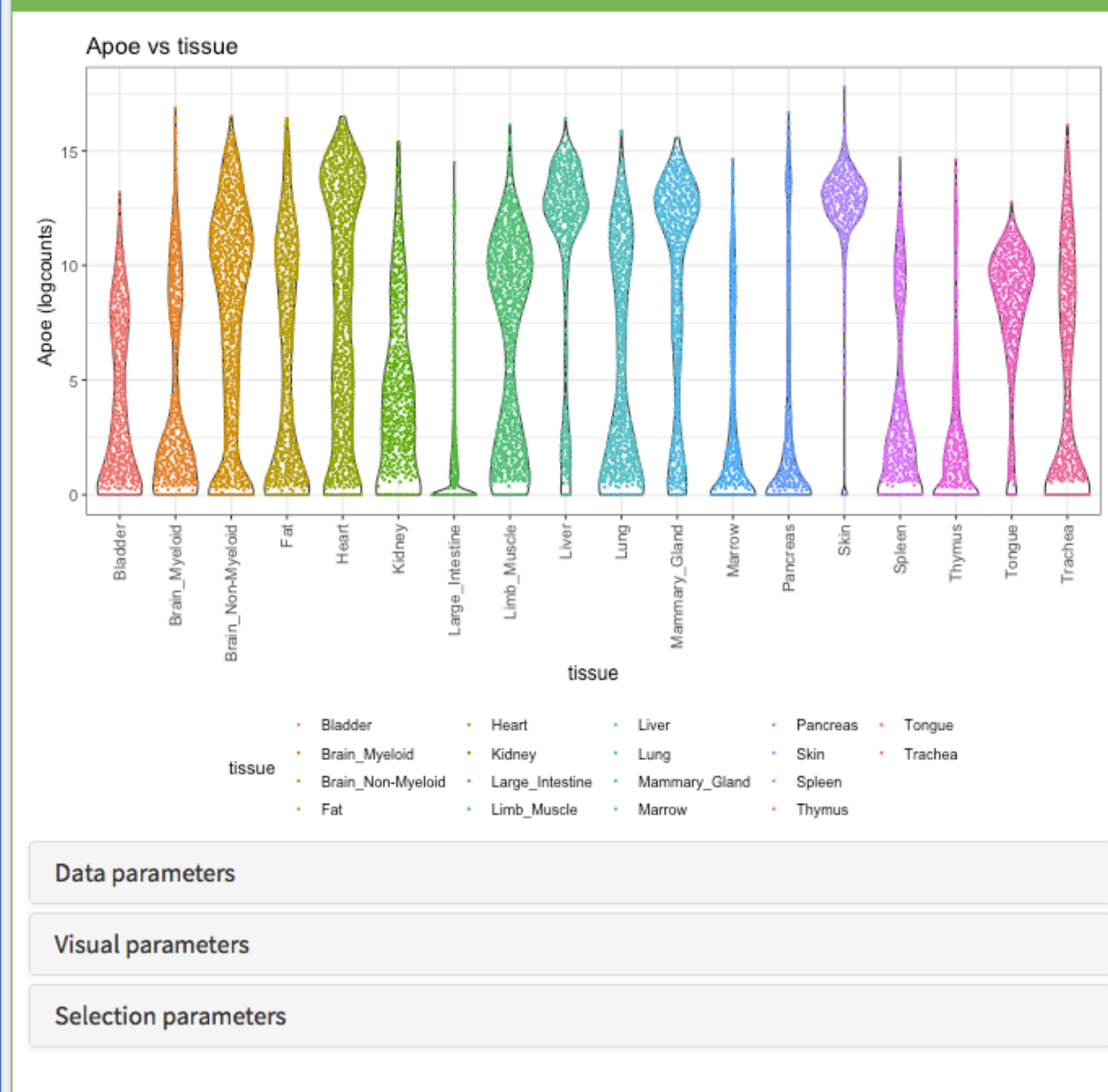
Visual parameters

Selection parameters

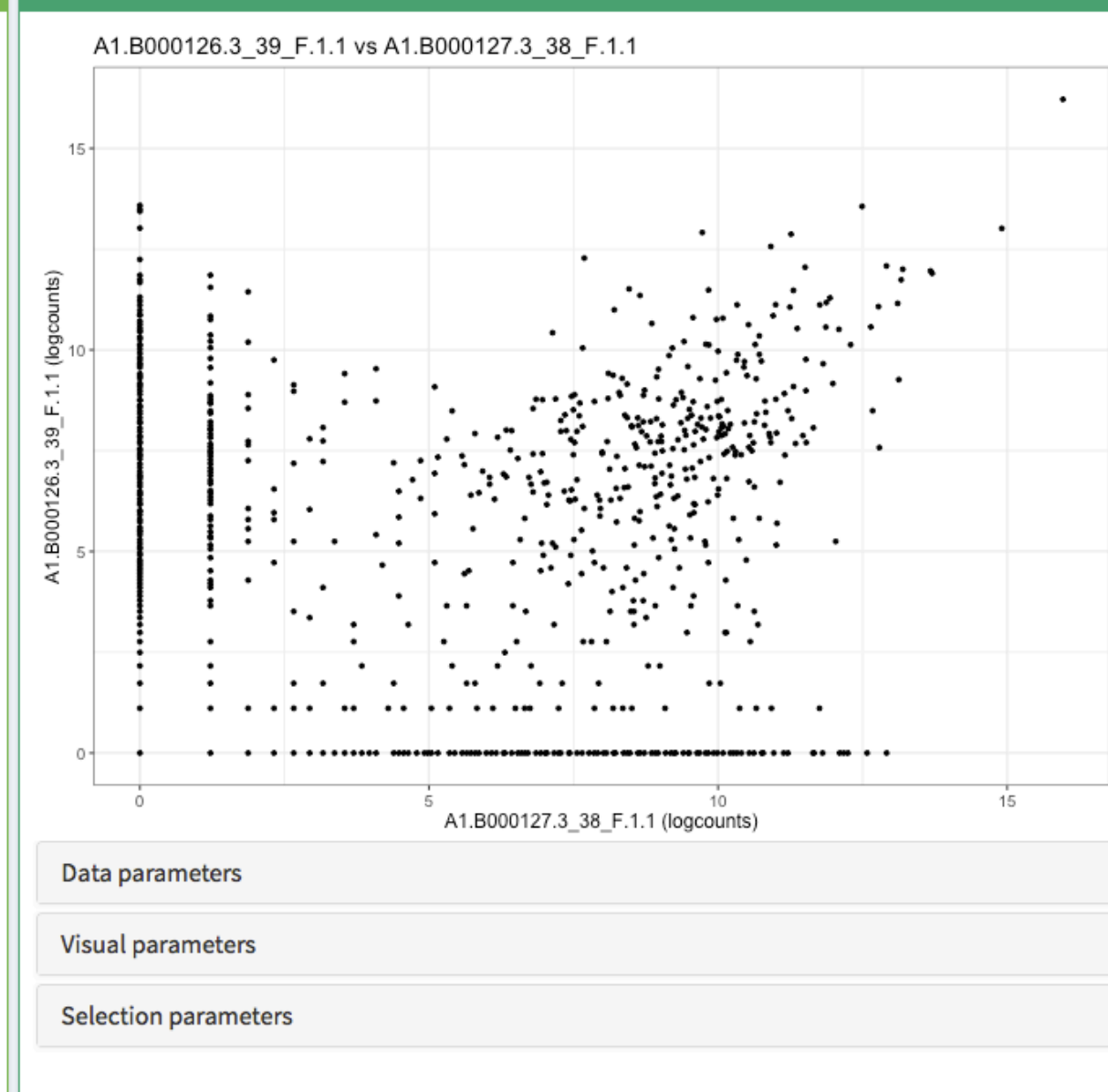
Reduced dimension plot 1



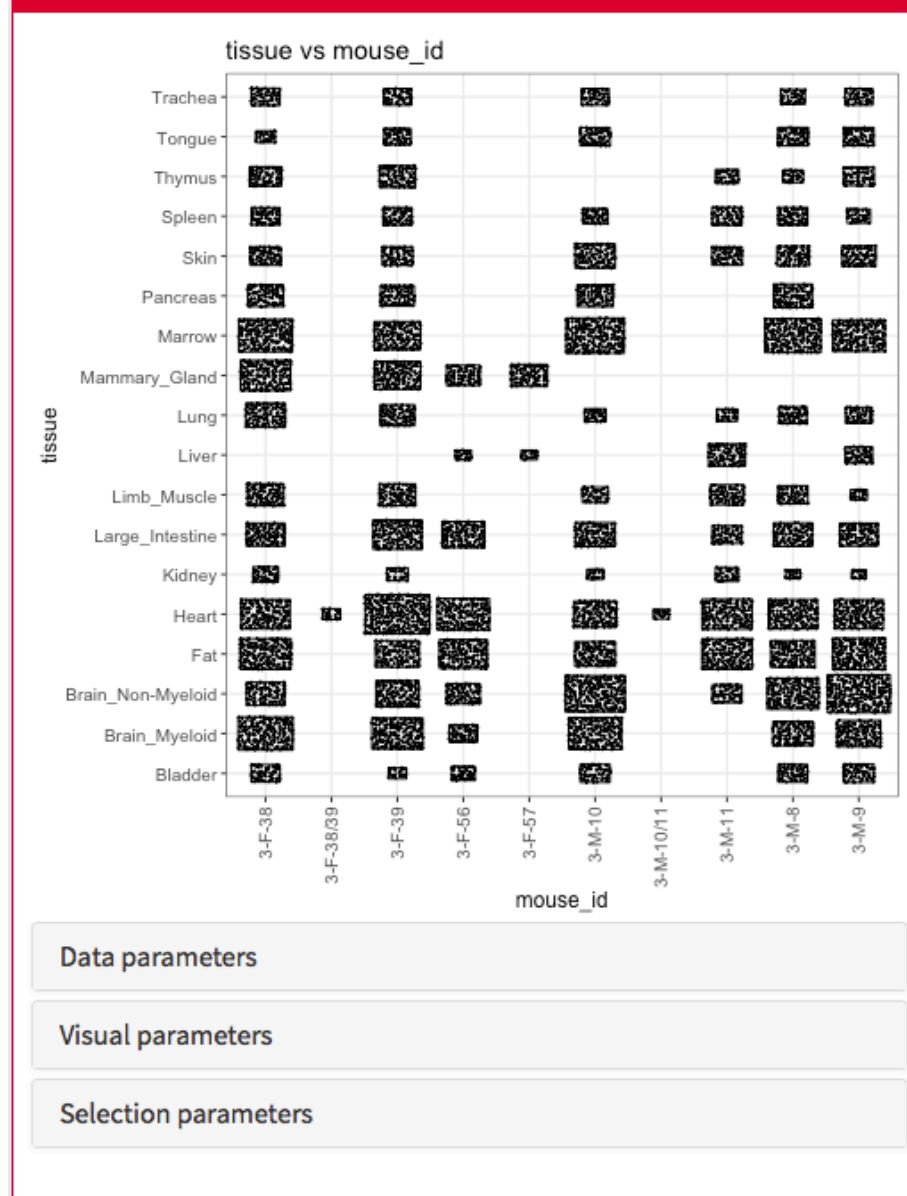
Feature assay plot 1



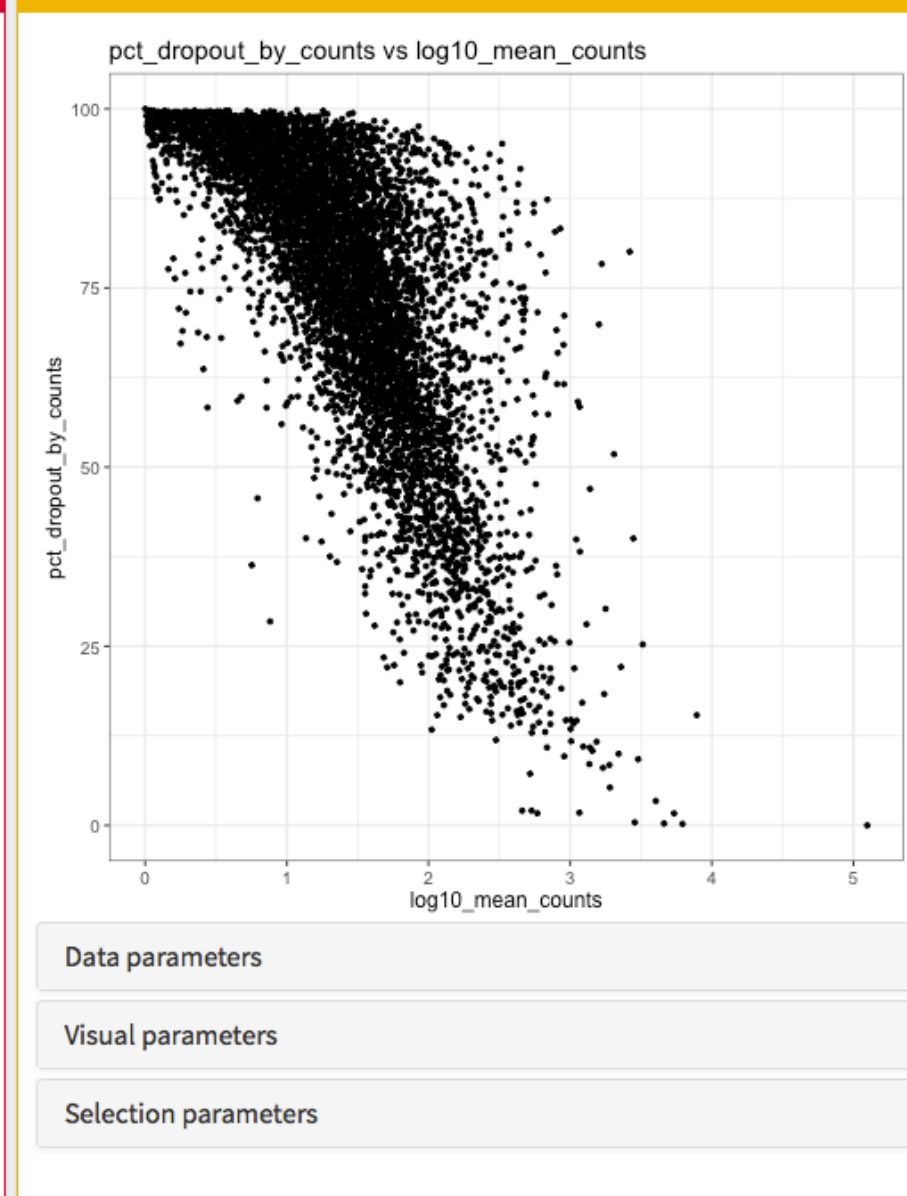
Sample assay plot 1



Column data plot 1



Row data plot 1



Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

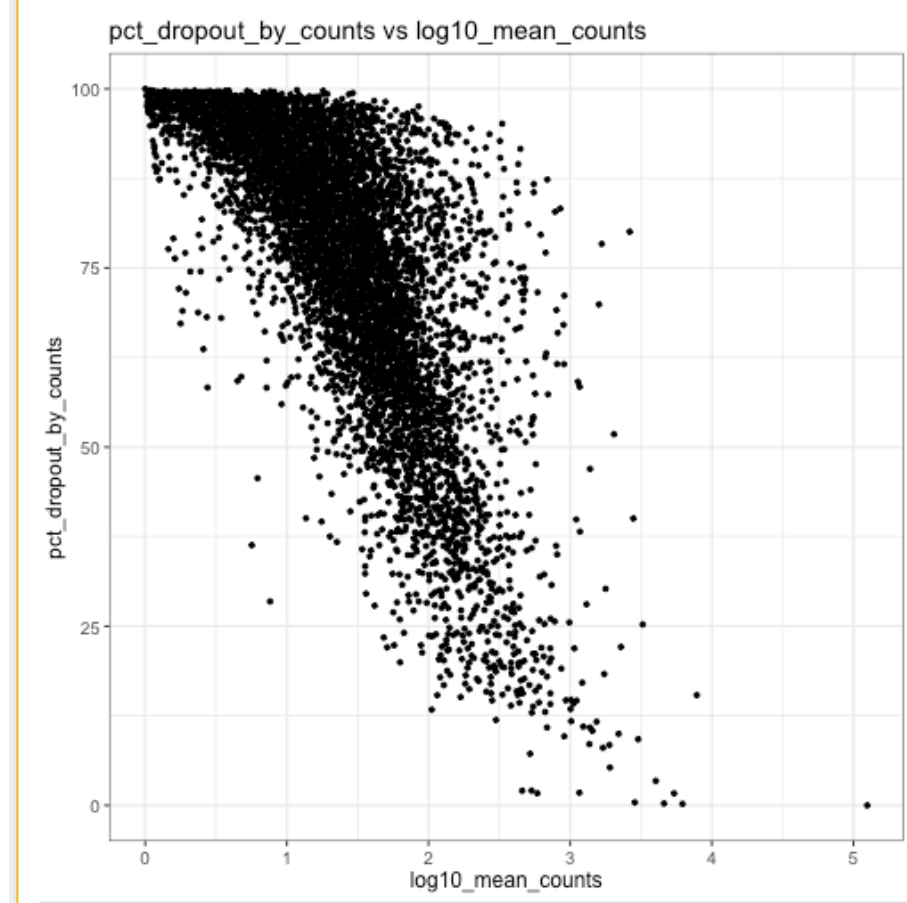
ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Row data plot 1

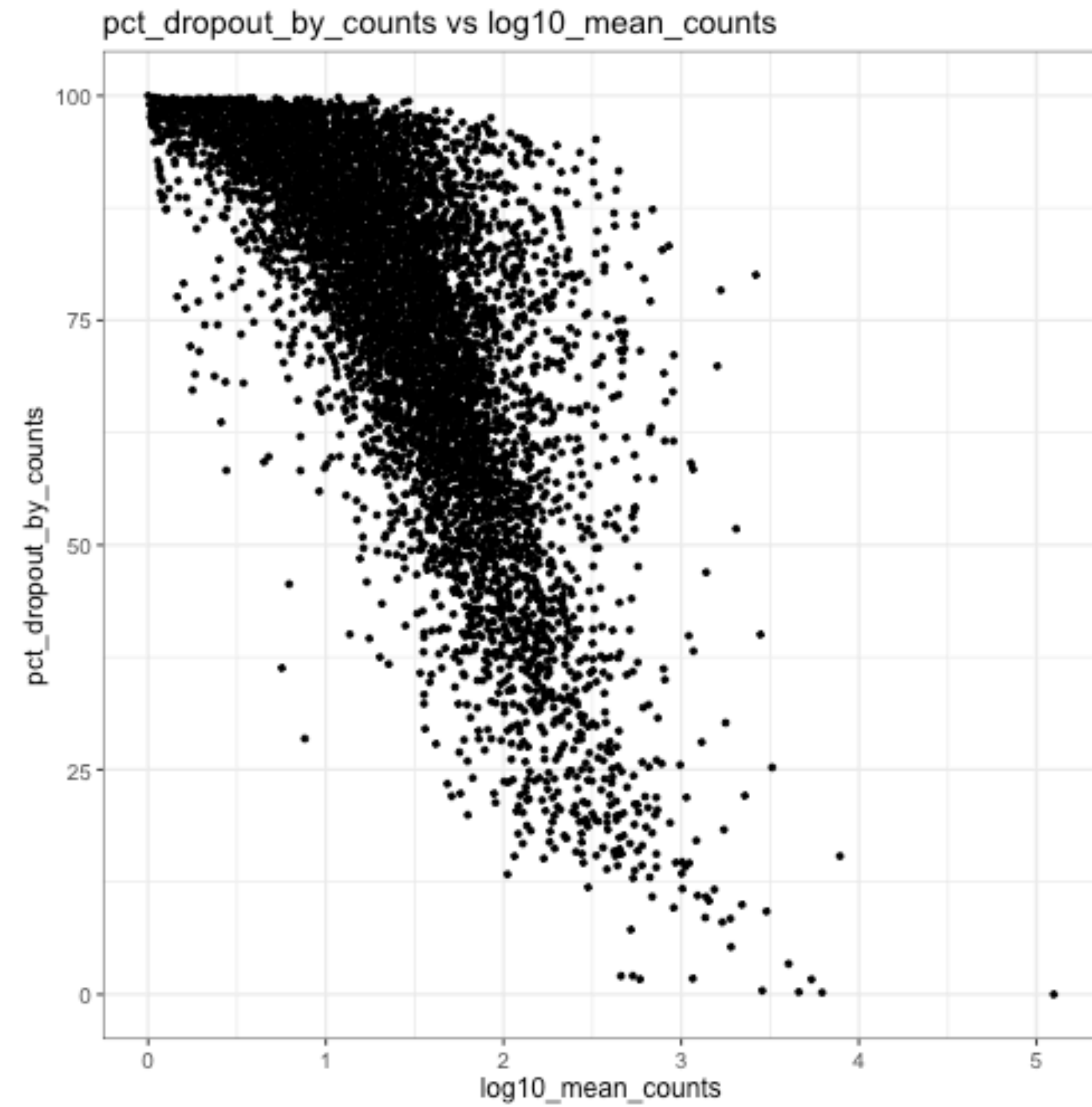


Data parameters

Visual parameters

Selection parameters

Row data plot 1

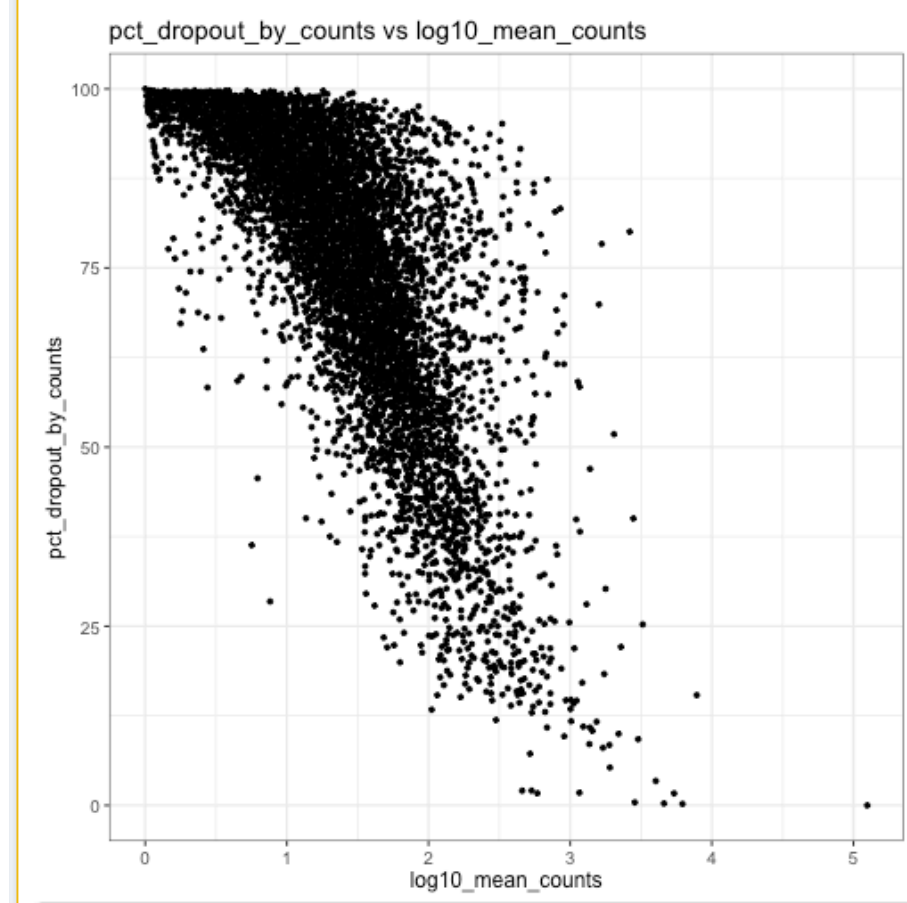


Data parameters

Visual parameters

Selection parameters

Row data plot 1

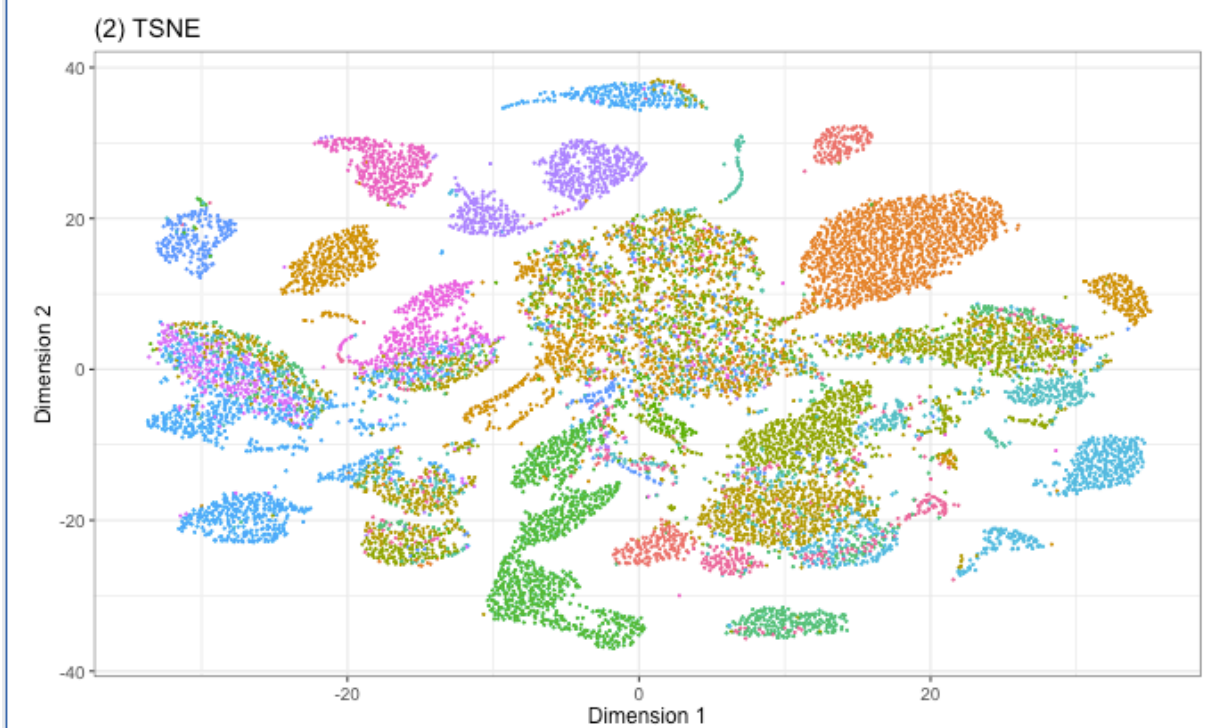


Data parameters

Visual parameters

Selection parameters

Reduced dimension plot 1



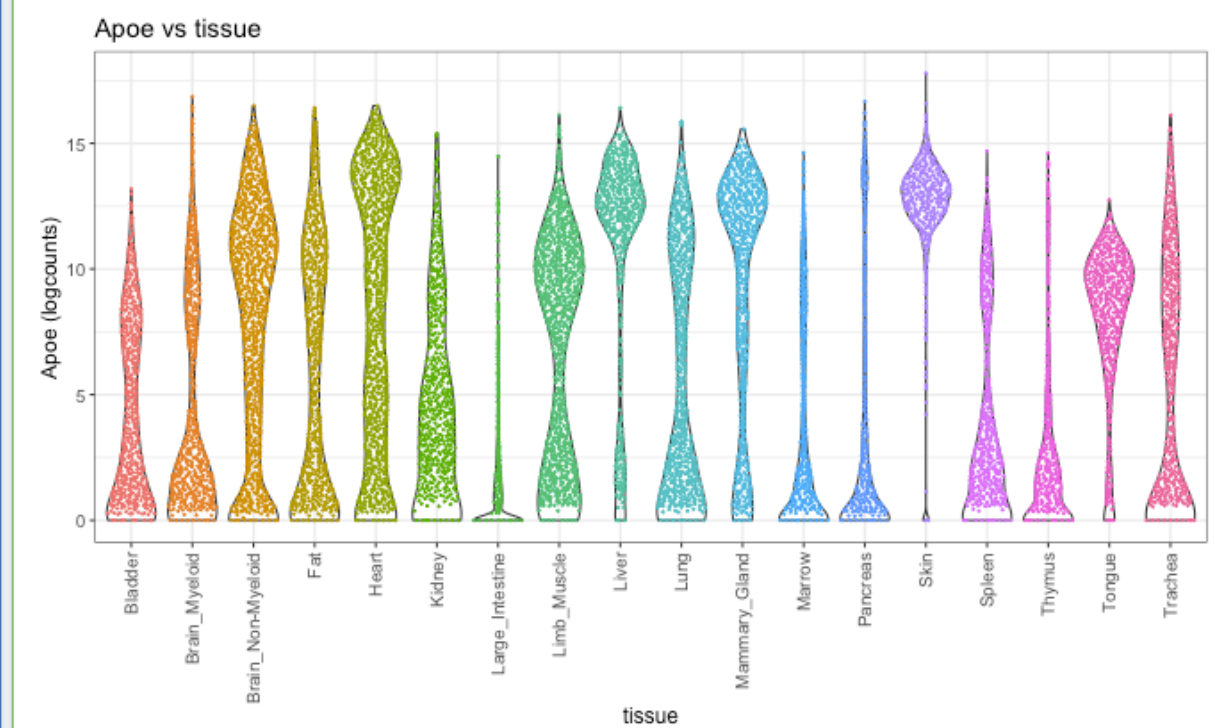
- Bladder
- Brain_Myeloid
- Brain_Non-Myeloid
- Fat
- Heart
- Kidney
- Large_Intestine
- Limb_Muscle
- Liver
- Lung
- Mammary_Gland
- Marrow
- Pancreas
- Skin
- Spleen
- Thymus
- Tongue
- Trachea

Data parameters

Visual parameters

Selection parameters

Feature assay plot 1



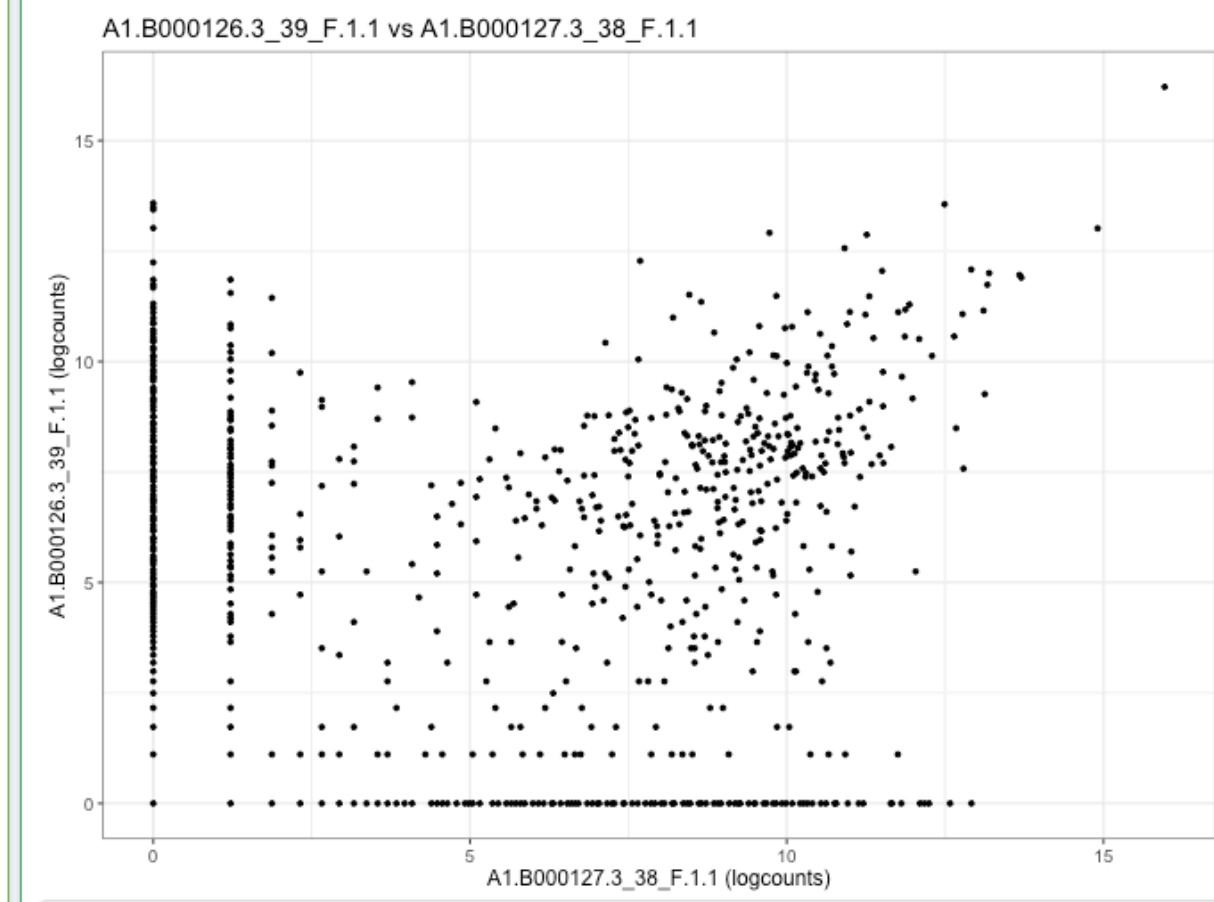
- Bladder
- Brain_Myeloid
- Brain_Non-Myeloid
- Fat
- Heart
- Kidney
- Large_Intestine
- Limb_Muscle
- Liver
- Lung
- Mammary_Gland
- Marrow
- Pancreas
- Skin
- Spleen
- Thymus
- Tongue
- Trachea

Data parameters

Visual parameters

Selection parameters

Sample assay plot 1

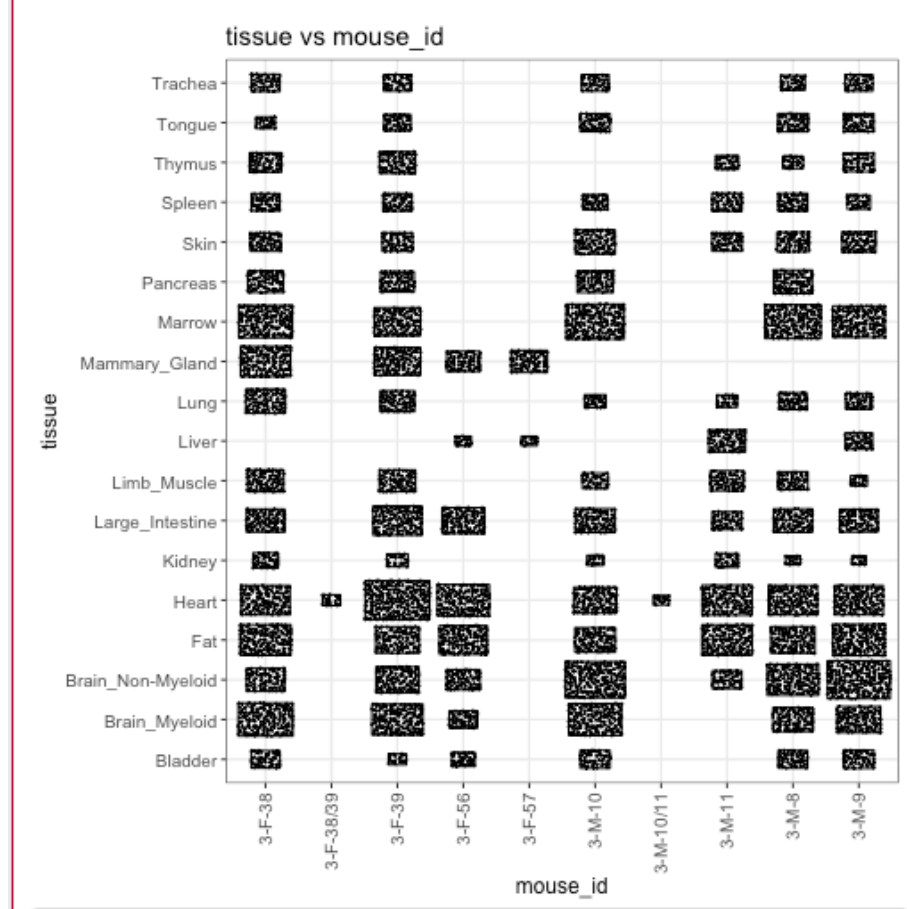


Data parameters

Visual parameters

Selection parameters

Column data plot 1

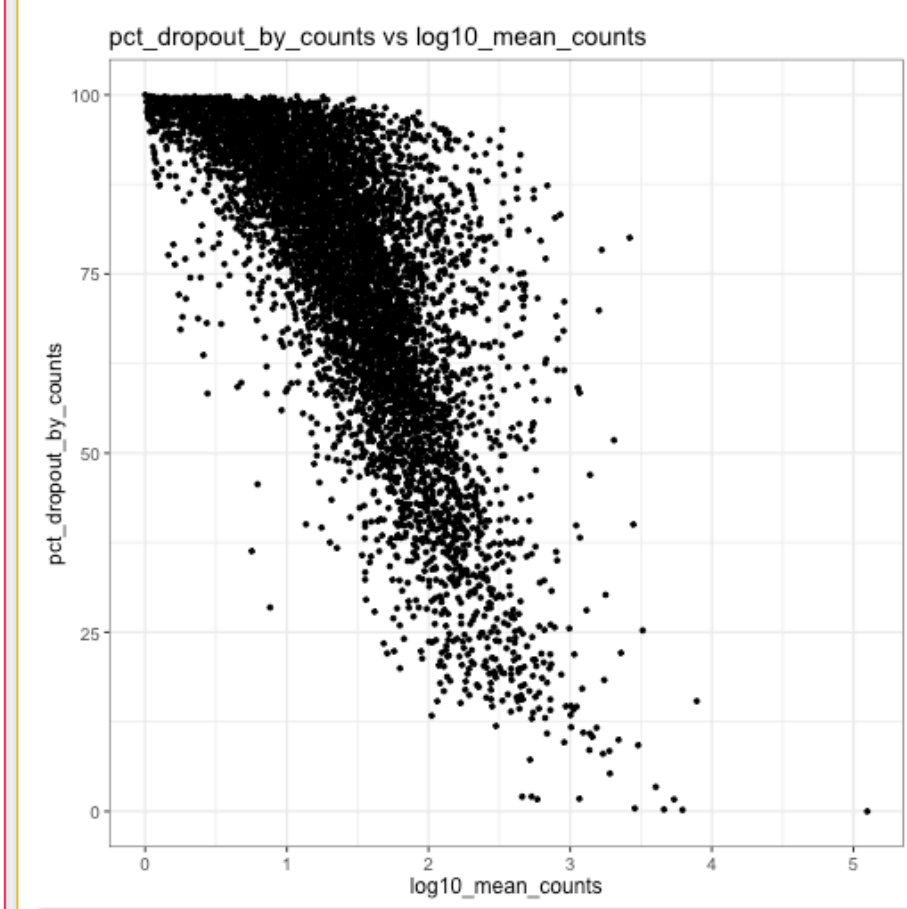


Data parameters

Visual parameters

Selection parameters

Row data plot 1



Data parameters

Visual parameters

Selection parameters

Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Column statistics table 1

Show entries Search:

cell	plate_barcode	mouse_
<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value="/"/>
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826

Showing 1 to 10 of 53,760 entries

Previous 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show entries Search:

ID	Symbol	is_feature_control
<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value="All"/>
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 2 3 4 5 ... 2344 Next

Selection parameters

Column statistics table 1

Show entries

Search:

	cell	plate_barcode	mouse_
	<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value="1"/>
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126	3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127	3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167	3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168	3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412	3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610	3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633	3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634	3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636	3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826	3-F-39

Showing 1 to 10 of 53,760 entries

Previous 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show entries

Search:

	ID	Symbol	is_feature_control
	<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value="All"/>
0610005C13Rik	0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 2 3 4 5 ... 2344 Next

Selection parameters

Column statistics table 1

Show entries Search:

cell	plate_barcode	mouse_
<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value=""/>
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show entries Search:

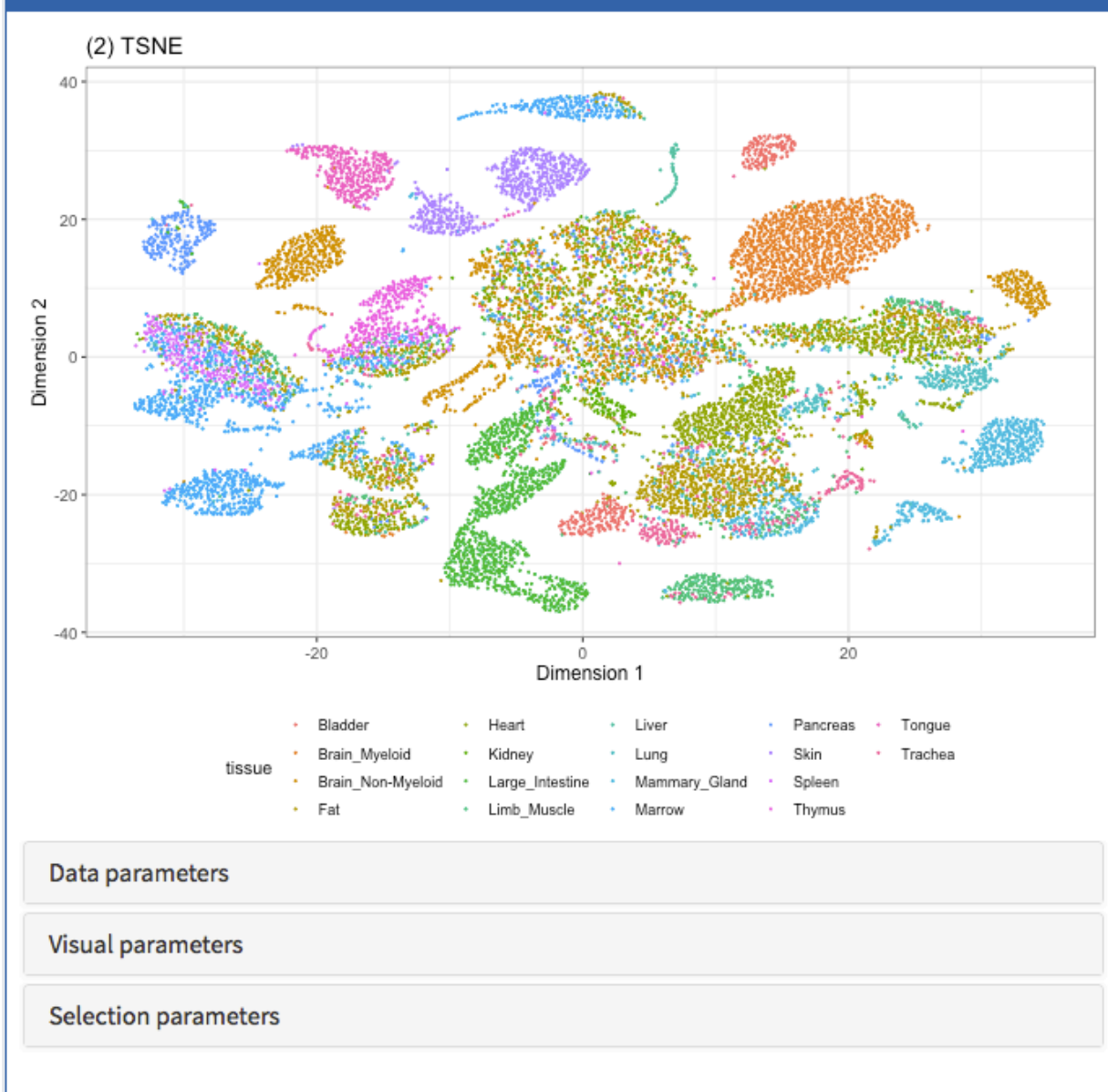
ID	Symbol	is_feature_control
<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value="All"/>
0610005C13Rik	0610005C13Rik	0610005C13Rik false
0610007C21Rik	0610007C21Rik	0610007C21Rik false
0610007L01Rik	0610007L01Rik	0610007L01Rik false
0610007N19Rik	0610007N19Rik	0610007N19Rik false
0610007P08Rik	0610007P08Rik	0610007P08Rik false
0610007P14Rik	0610007P14Rik	0610007P14Rik false
0610007P22Rik	0610007P22Rik	0610007P22Rik false
0610008F07Rik	0610008F07Rik	0610008F07Rik false
0610009B14Rik	0610009B14Rik	0610009B14Rik false
0610009B22Rik	0610009B22Rik	0610009B22Rik false

Showing 1 to 10 of 23,433 entries

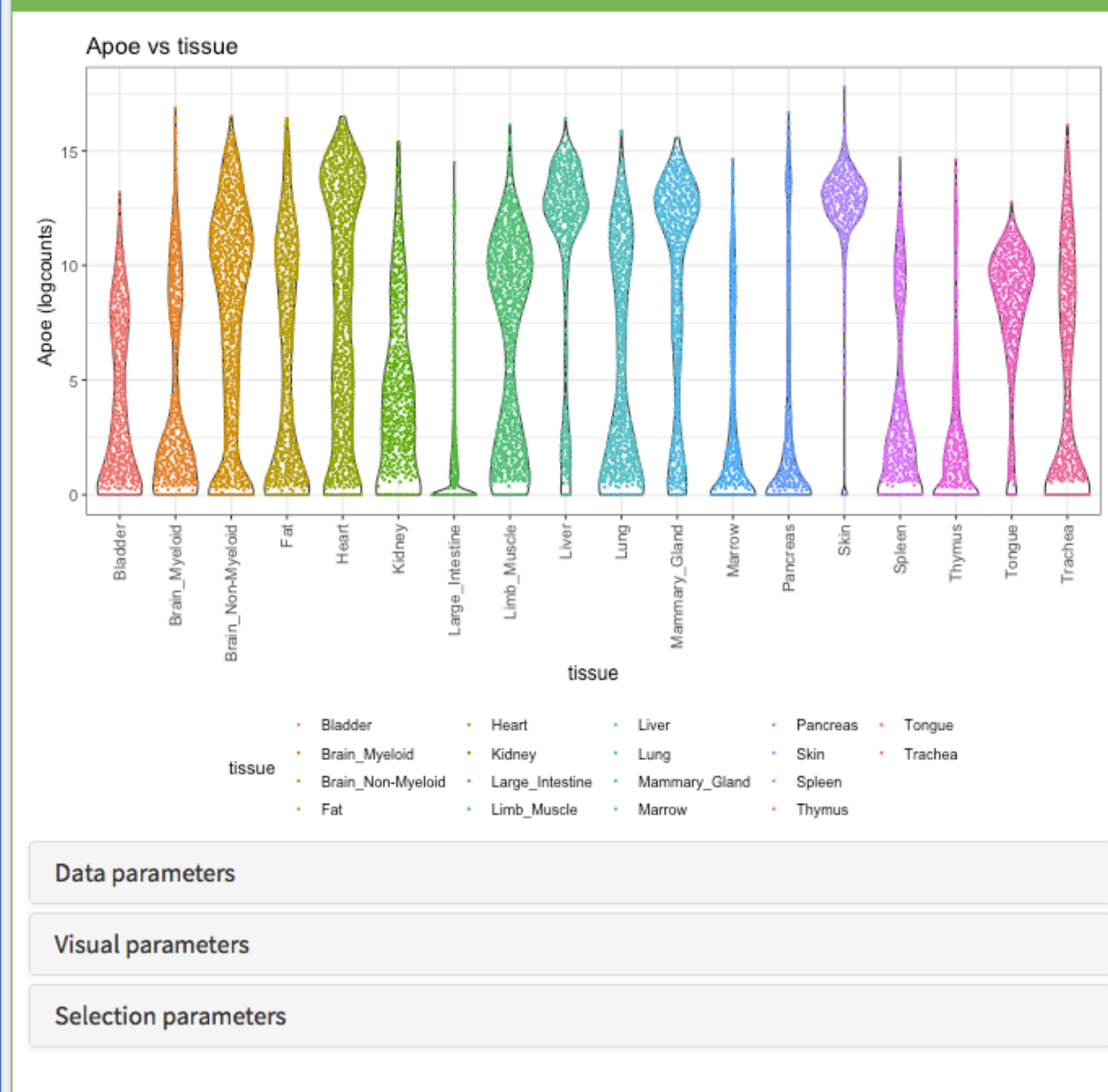
Previous 2 3 4 5 ... 2344 Next

Selection parameters

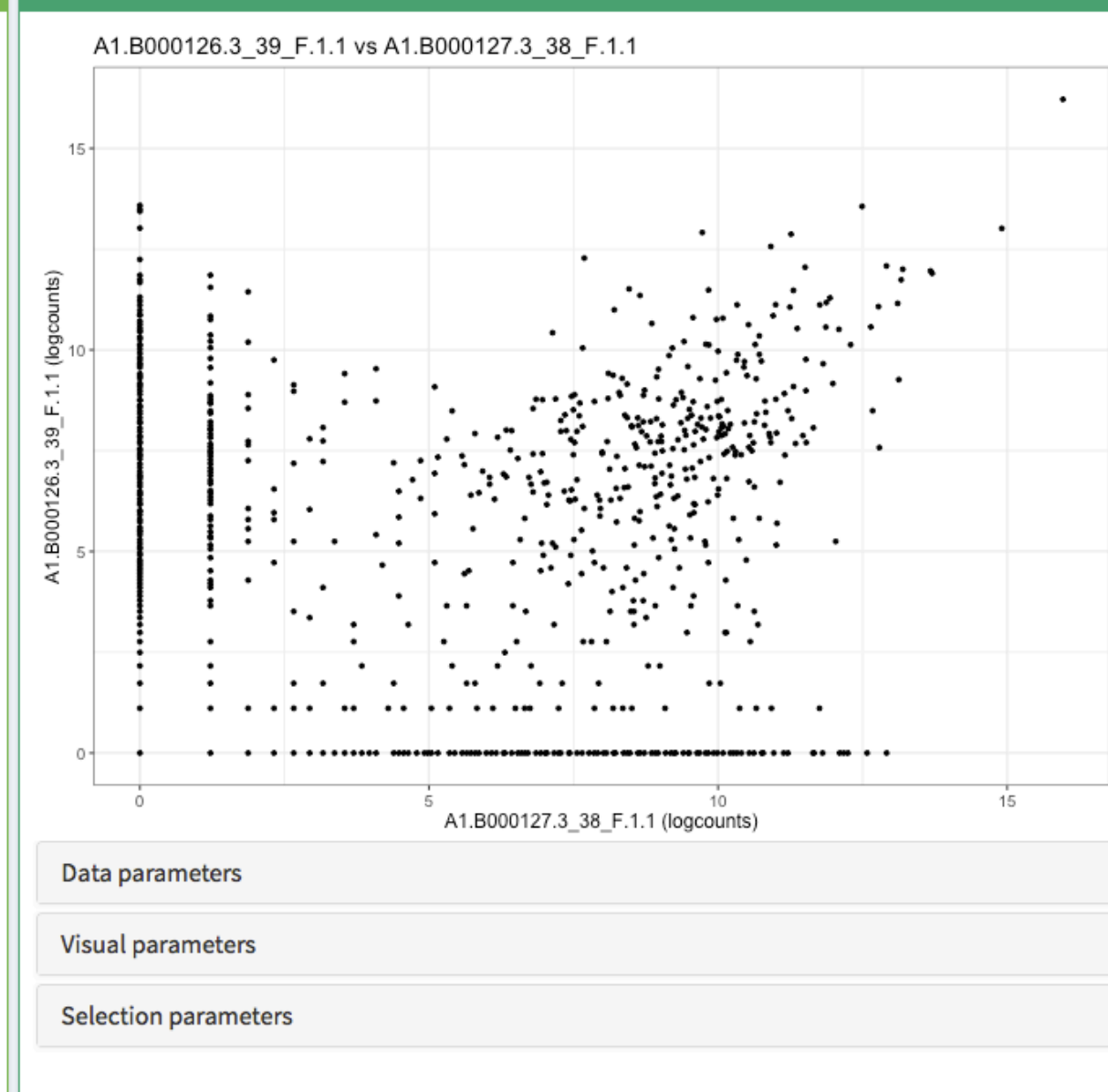
Reduced dimension plot 1



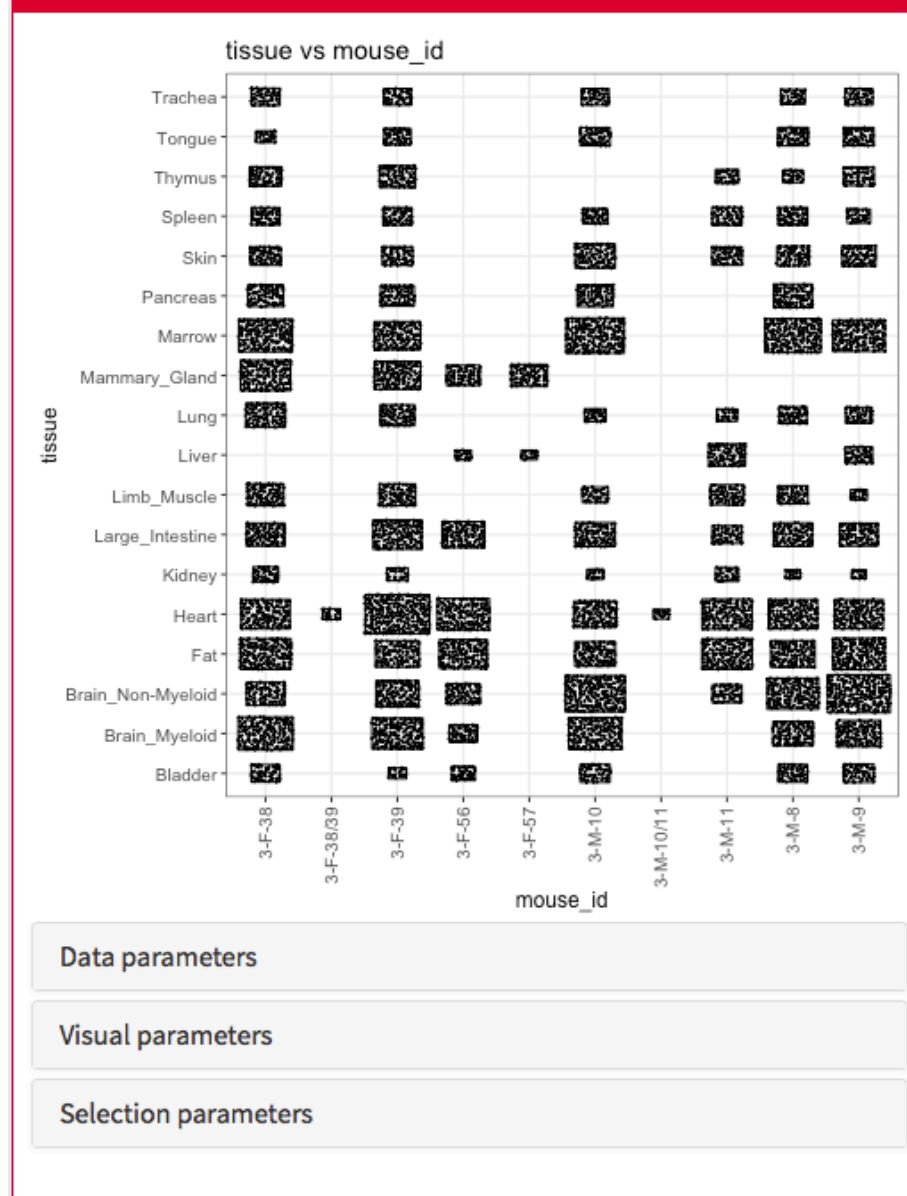
Feature assay plot 1



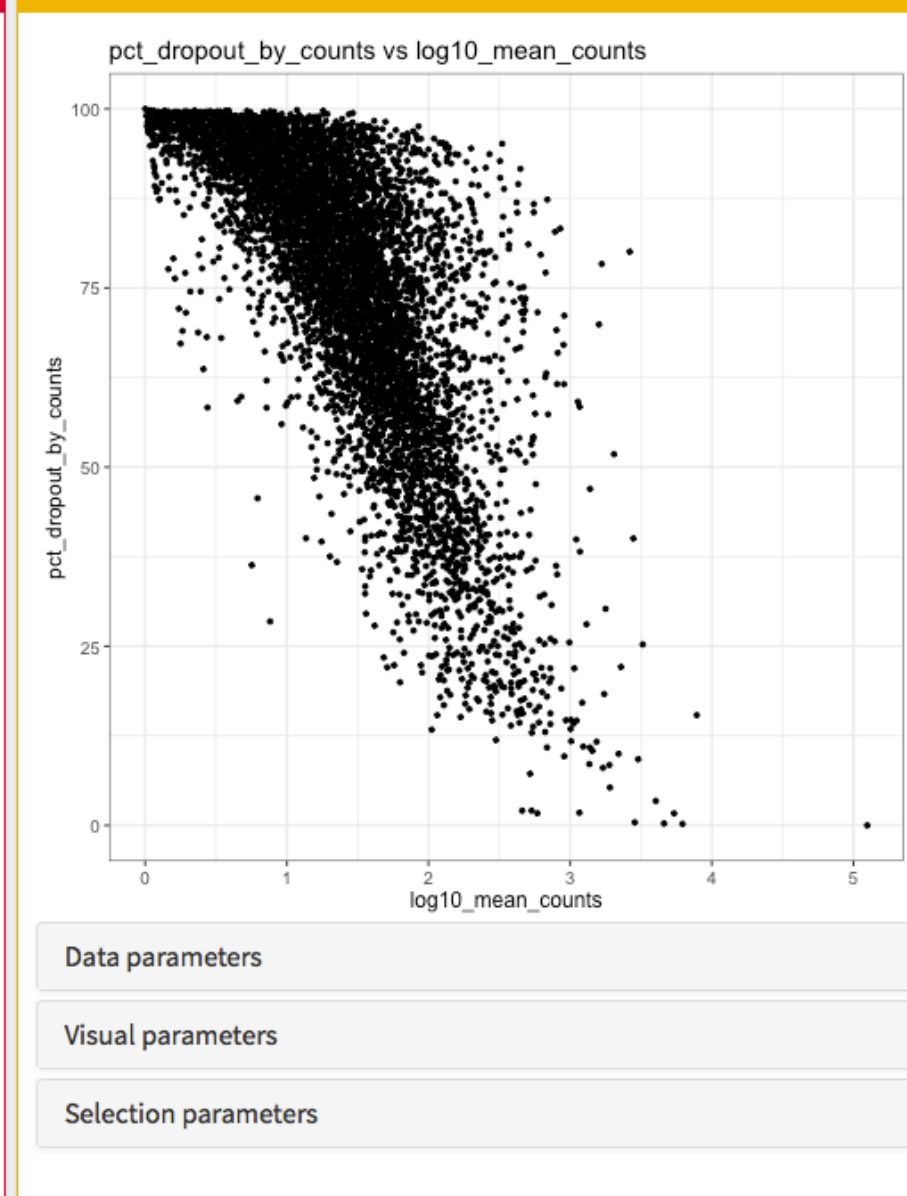
Sample assay plot 1



Column data plot 1



Row data plot 1



Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

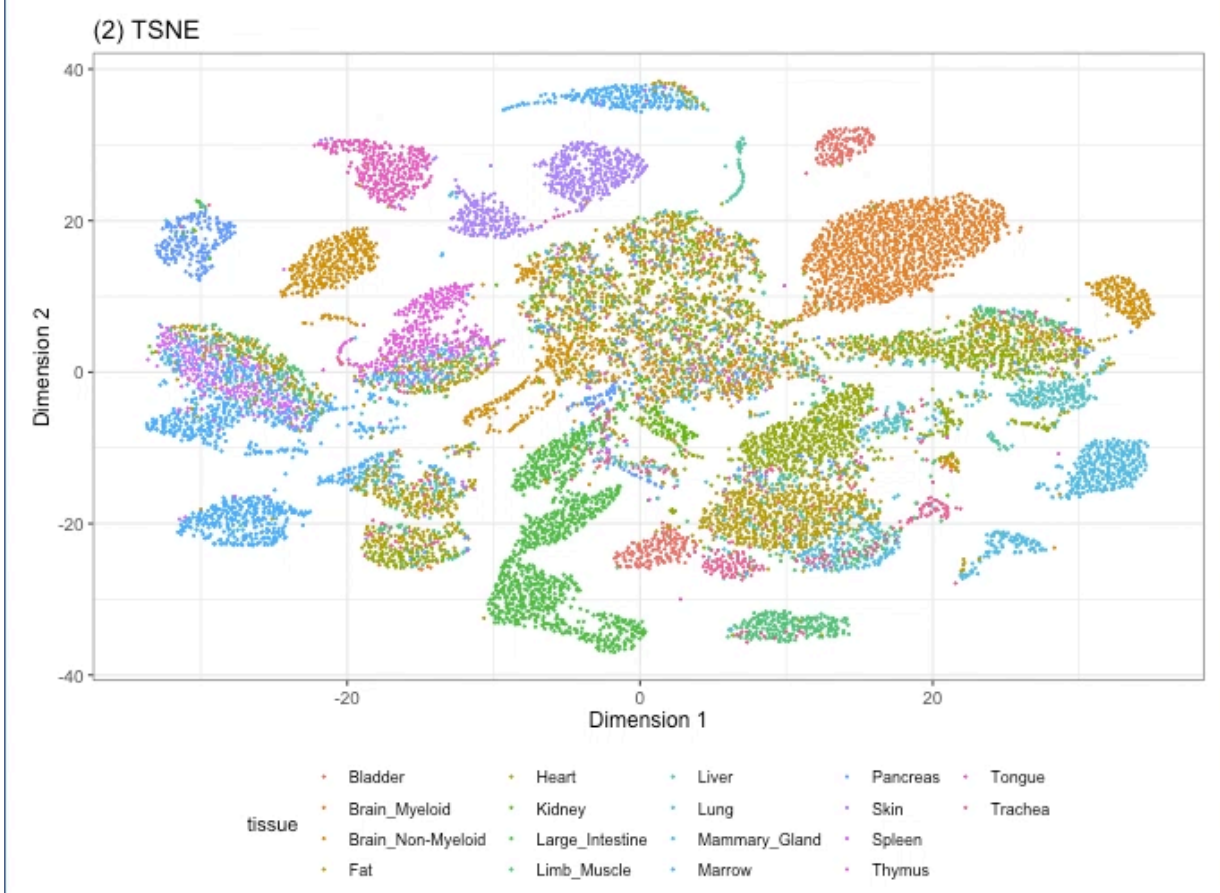
ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Reduced dimension plot 1

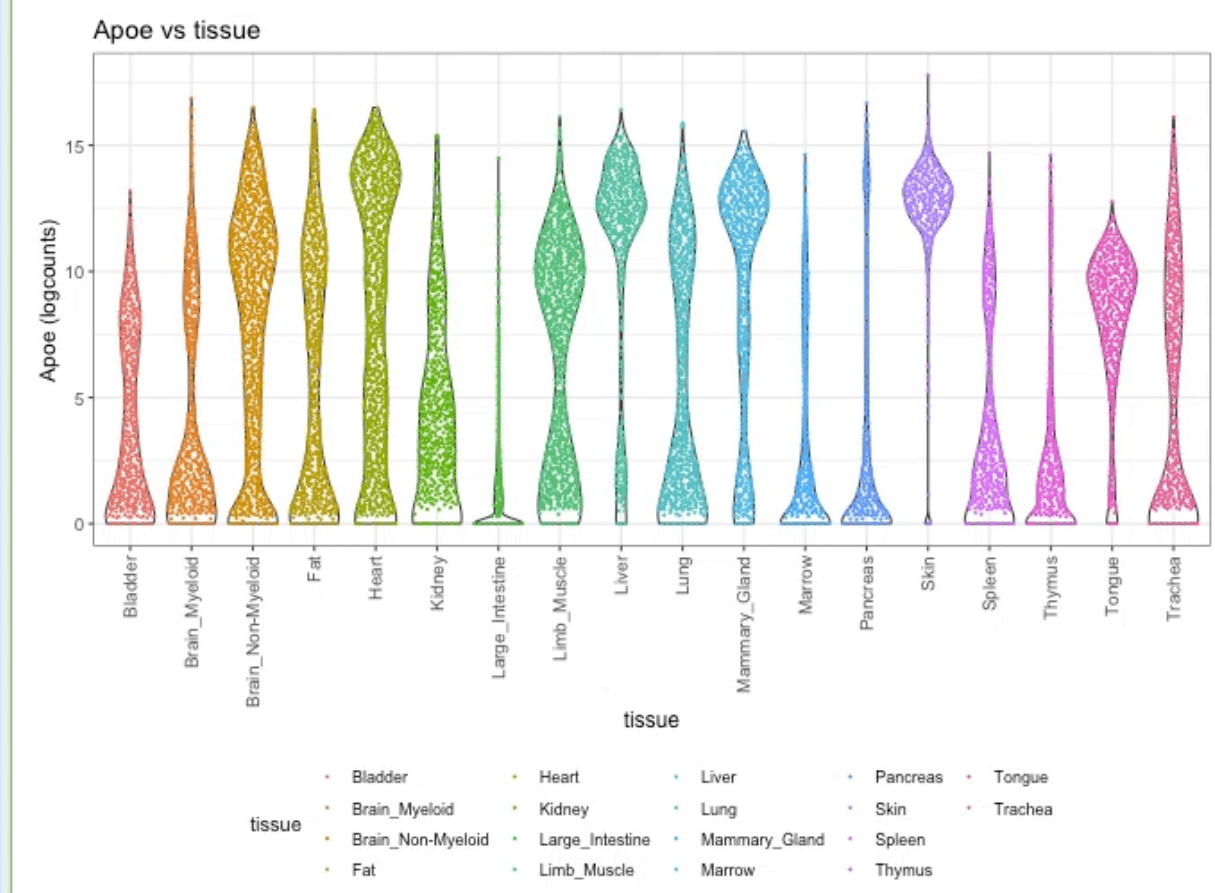


Data parameters

Visual parameters

Selection parameters

Feature assay plot 1

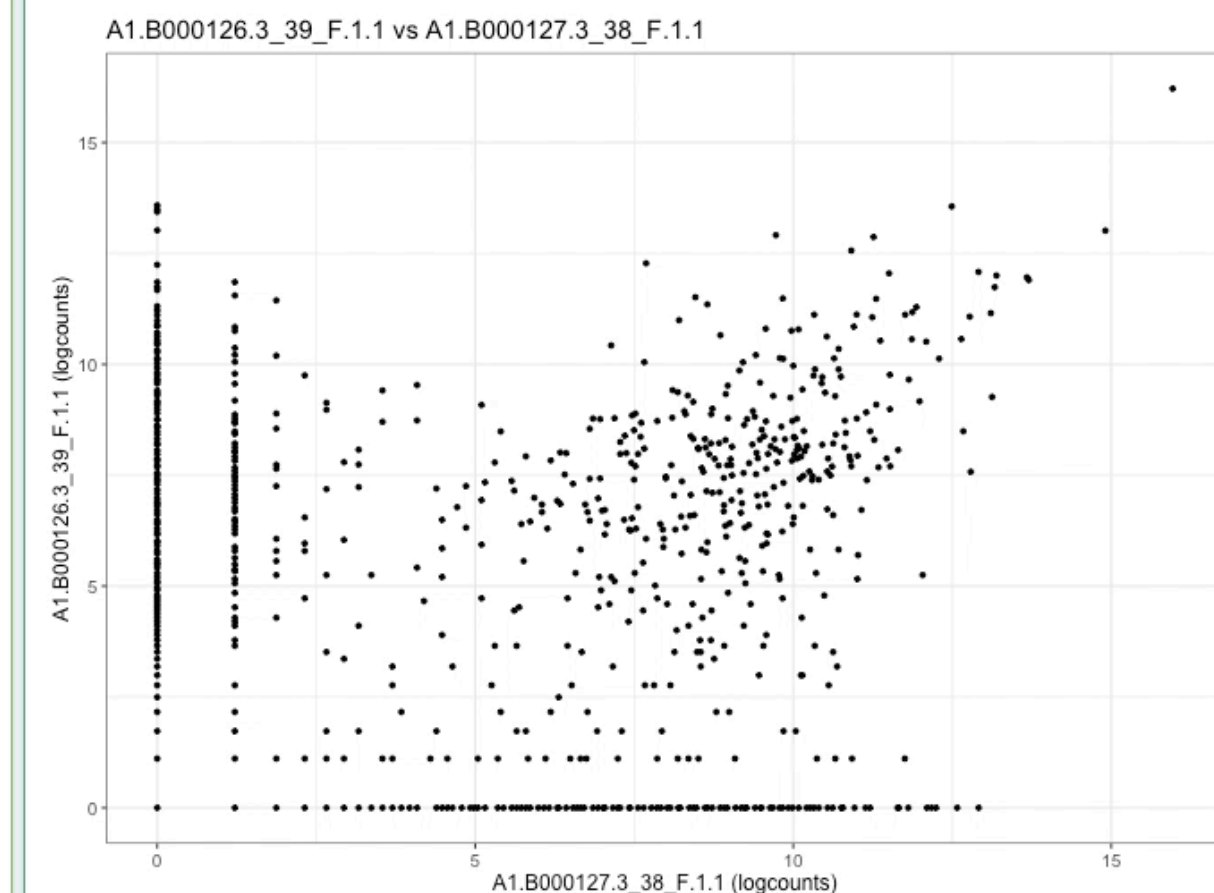


Data parameters

Visual parameters

Selection parameters

Sample assay plot 1

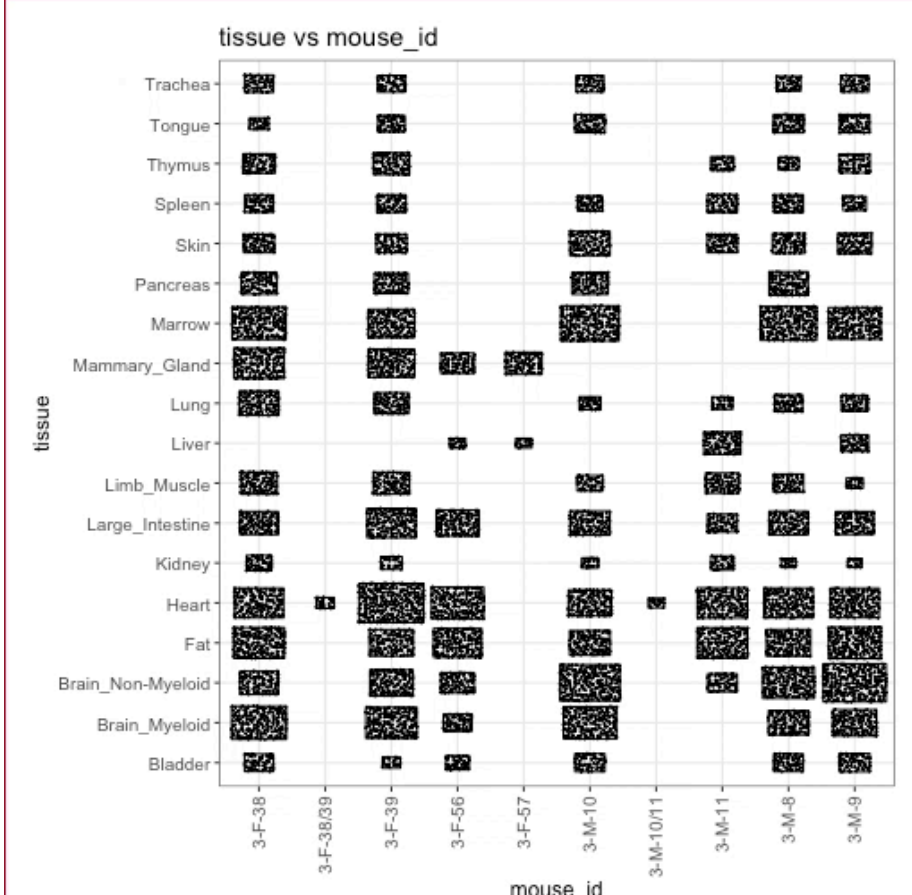


Data parameters

Visual parameters

Selection parameters

Column data plot 1

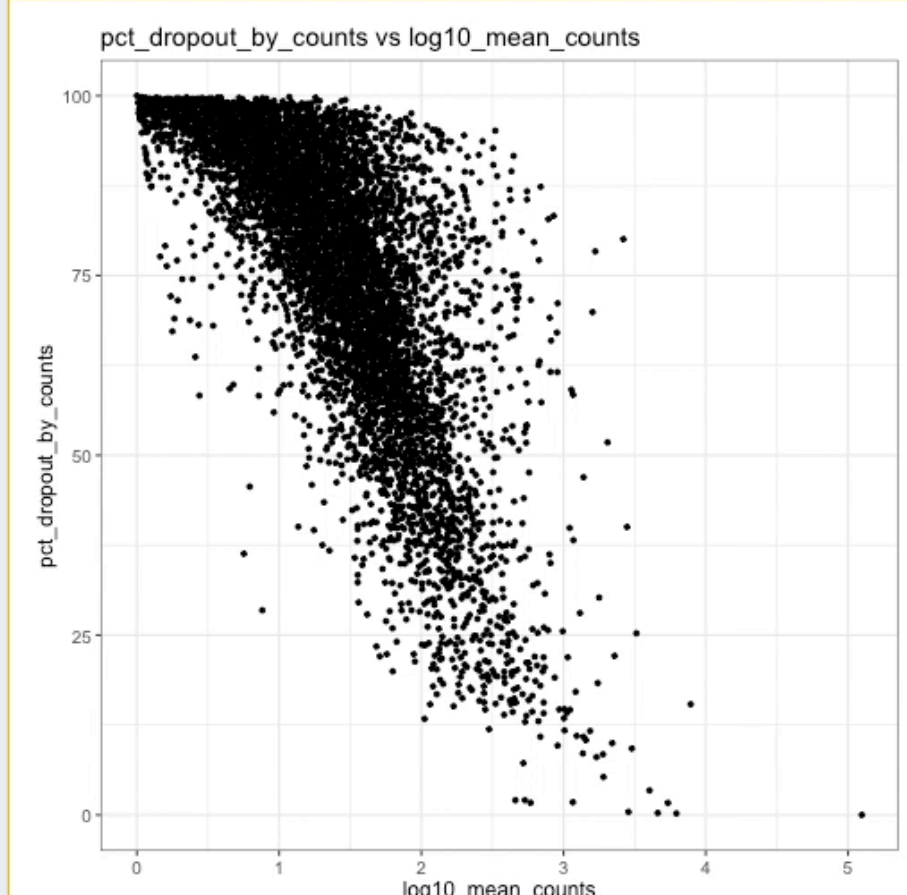


Data parameters

Visual parameters

Selection parameters

Row data plot 1



Data parameters

Visual parameters

Selection parameters

Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

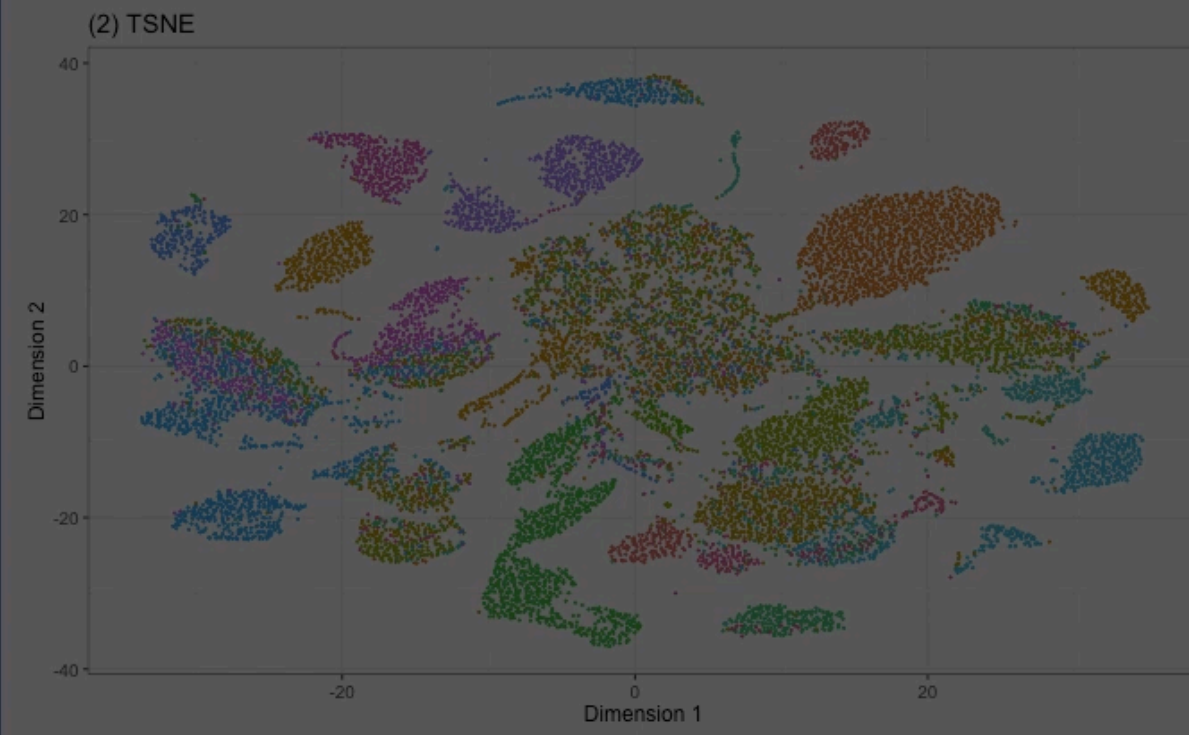
ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Reduced dimension plot 1



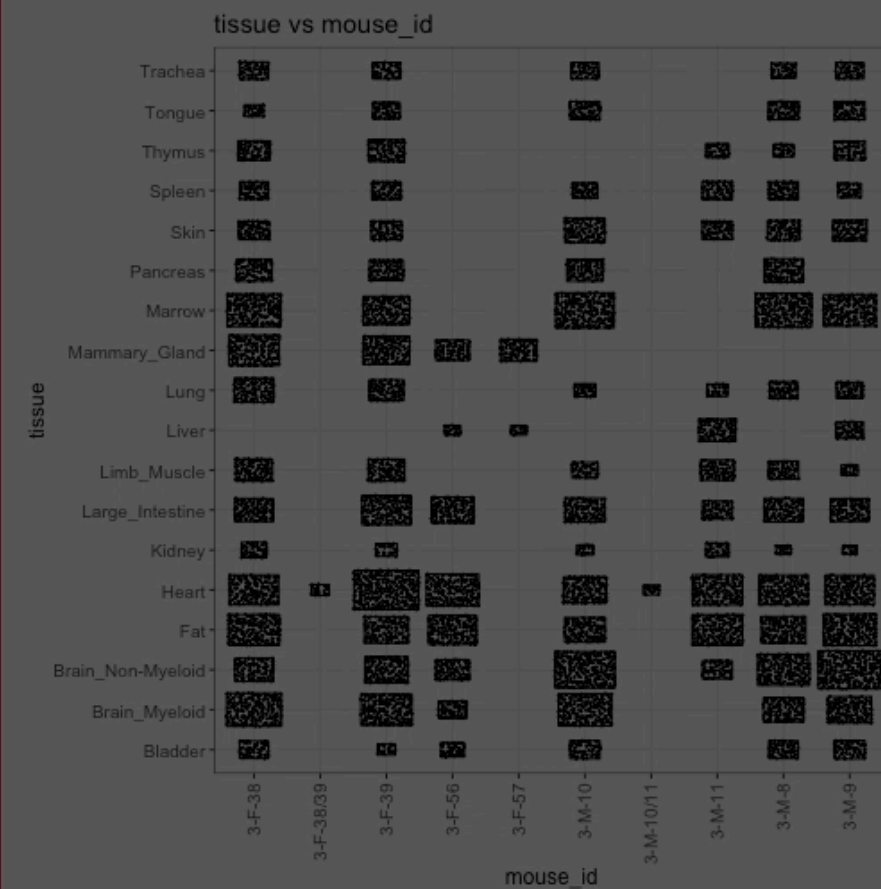
- Bladder
- Brain_Myeloid
- Brain_Non-Myeloid
- Fat
- Heart
- Kidney
- Large_Intestine
- Limb_Muscle
- Liver
- Lung
- Mammary_Gland
- Marrow
- Pancreas
- Skin
- Spleen
- Thymus
- Tongue
- Trachea

Data parameters

Visual parameters

Selection parameters

Column data plot 1

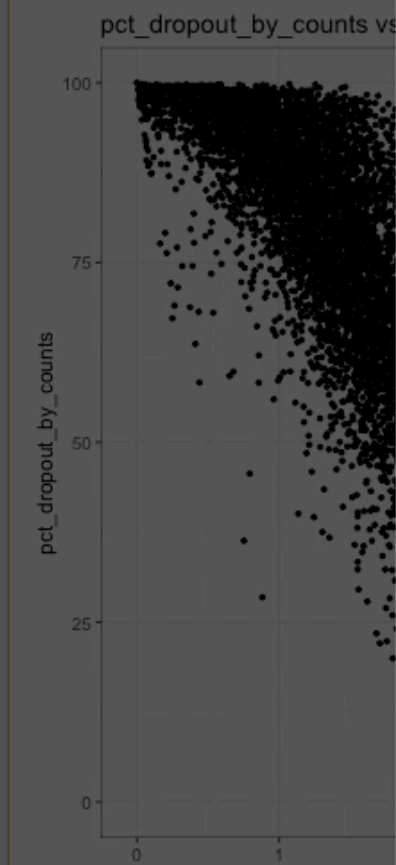


Data parameters

Visual parameters

Selection parameters

Row data plot 1



Data parameters

Visual parameters

Selection parameters

Panel organization

- Reduced dimension plot 1
- Sample assay plot 1
- Feature assay plot 1
- Column data plot 1
- Row data plot 1
- Column statistics table 1

Row statistics table 1

- redDimPlot2
- redDimPlot3
- redDimPlot4
- redDimPlot5
- colDataPlot2
- colDataPlot3
- colDataPlot4

Sample assay plot 1

Width: 4

Height: 500

Feature assay plot 1

Width: 4

Height: 500

Column data plot 1

Width: 3

Height: 500

Row data plot 1

Width: 3

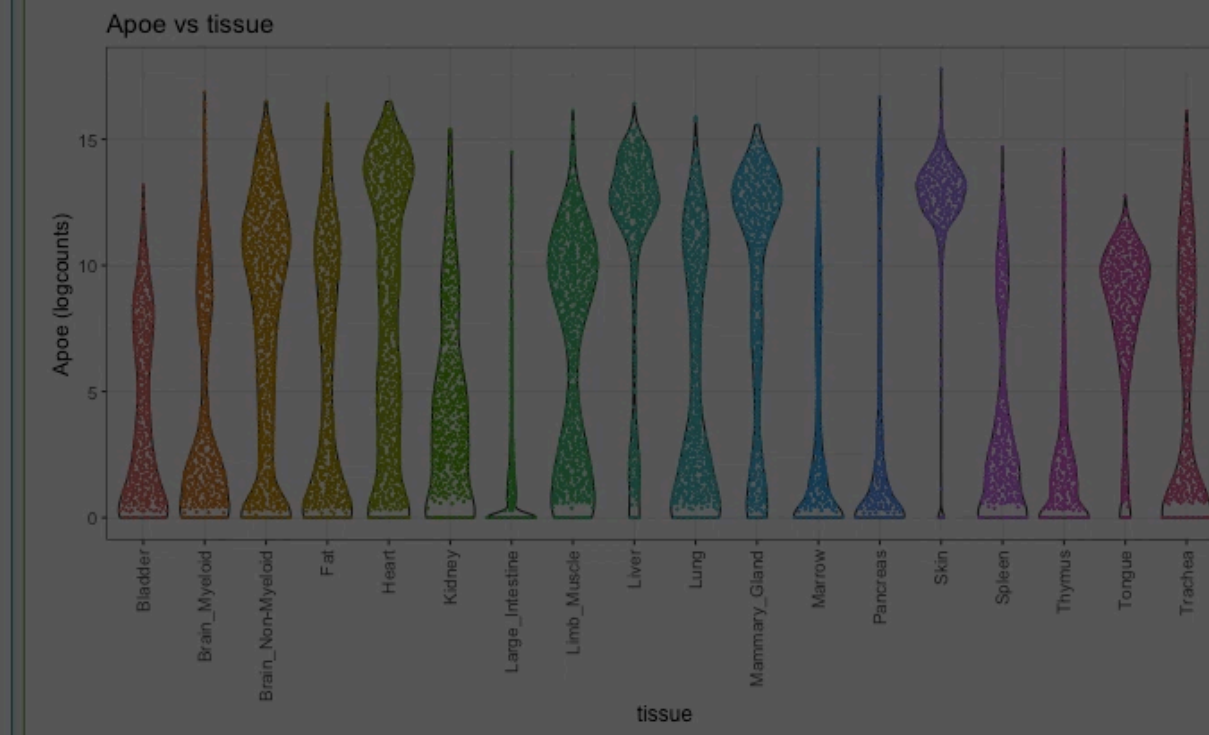
Height: 500

Column statistics table 1

Width: 3

Height: 500

Feature assay plot 1



- Bladder
- Brain_Myeloid
- Brain_Non-Myeloid
- Fat
- Heart
- Kidney
- Large_Intestine
- Limb_Muscle
- Liver
- Lung
- Mammary_Gland
- Marrow
- Pancreas
- Skin
- Spleen
- Thymus
- Tongue
- Trachea

Data parameters

Visual parameters

Selection parameters

Search:

plate_barcode mouse_

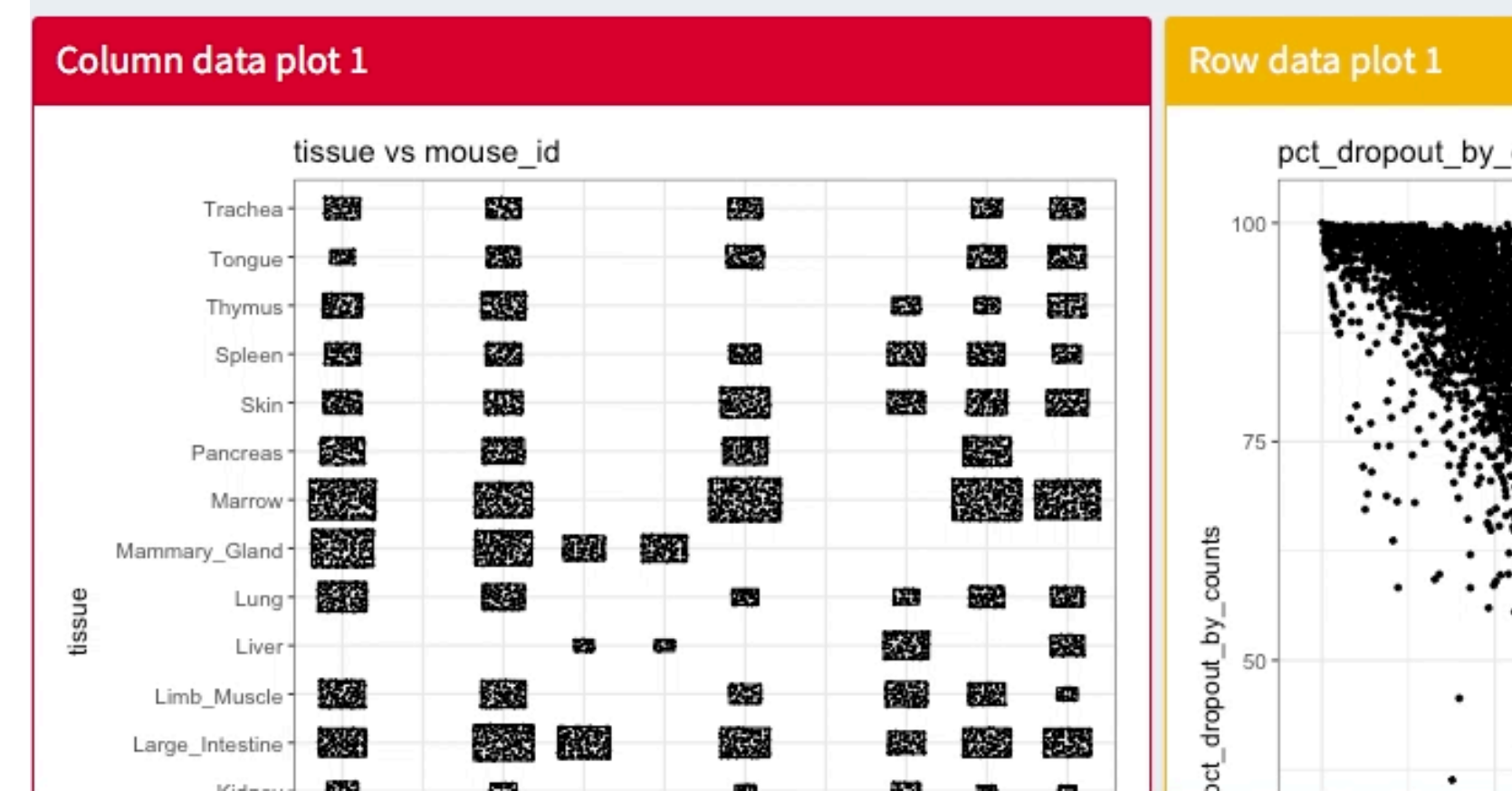
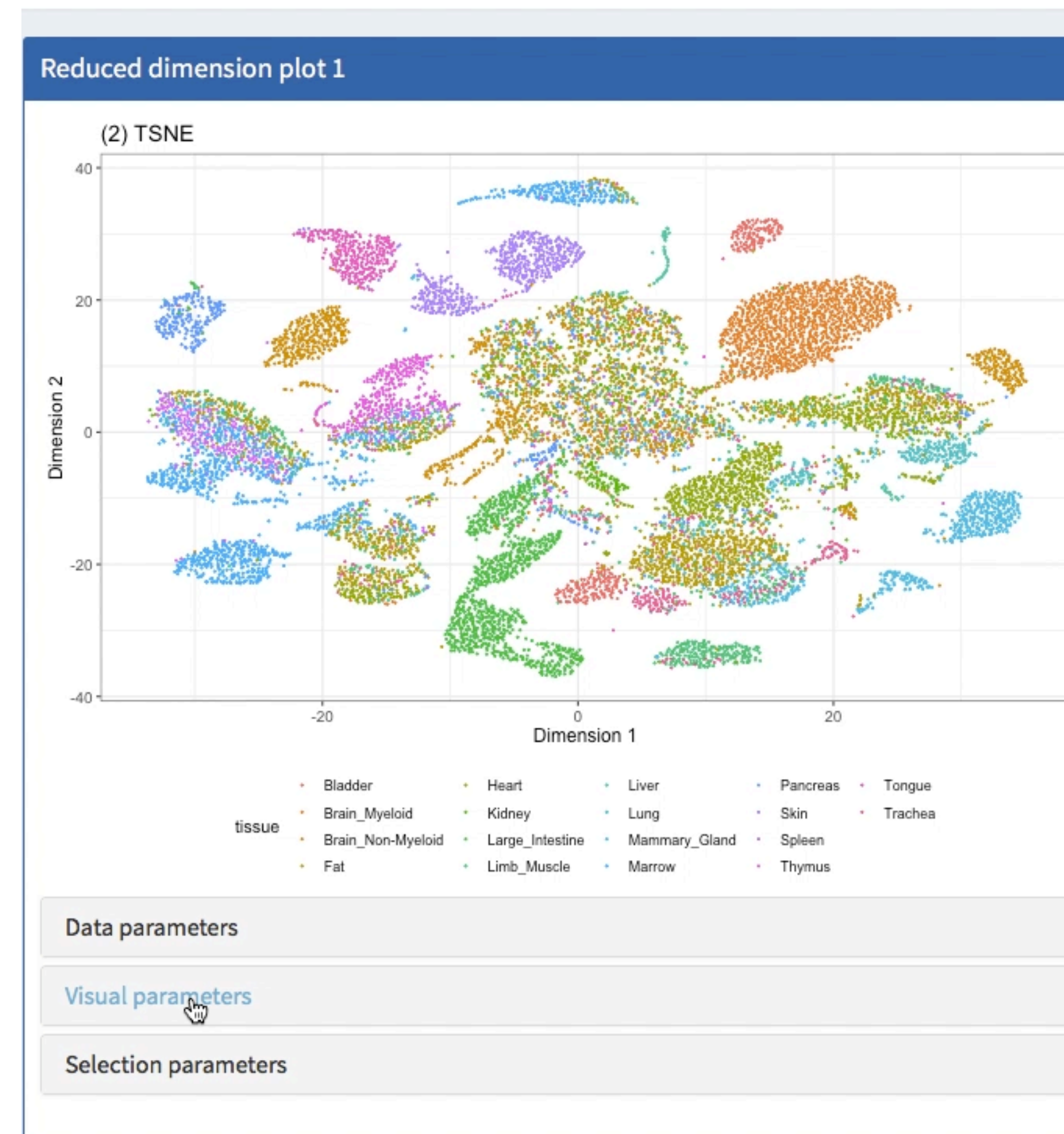
All /

1	B000126	3-F-39
1	B000127	3-F-38
1	B000167	3-F-56
1	B000168	3-F-57
1	B000412	3-F-56
1	B000610	3-F-56
1	B000633	3-F-56
1	B000634	3-F-56
1	B000636	3-F-56
1	B000826	3-F-39

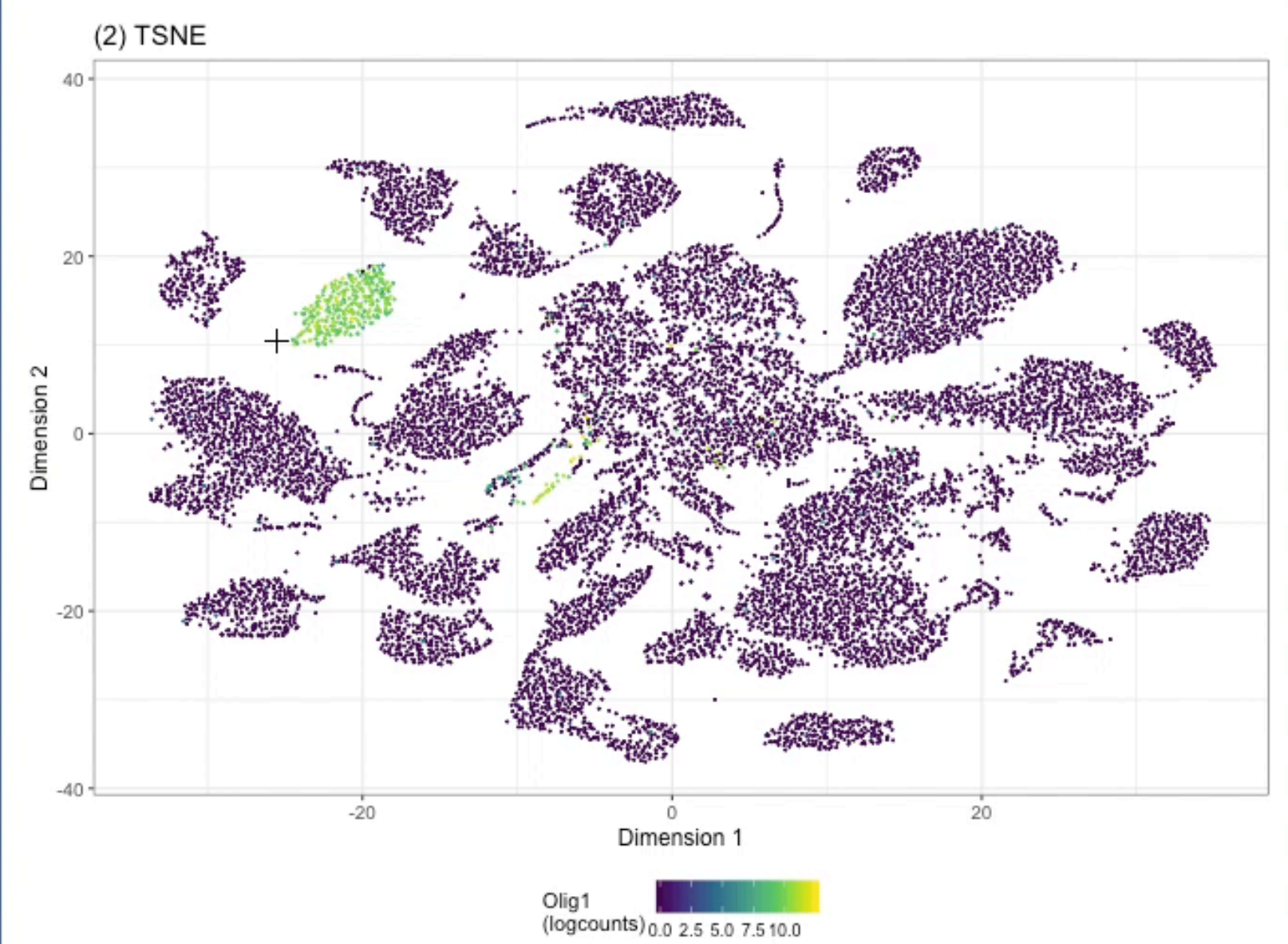
5 ... 5376 Next

Interactive data exploration enables hypothesis generation

- Overlay biological knowledge onto observed data
- Color cells by expression of known marker gene(s) to assign cell type labels
- Exploration of complex data is aided by multiple simultaneous viewpoints



Reduced dimension plot 1



Data parameters

Visual parameters

Selection parameters

Receive column selection from:

Active Union Saved

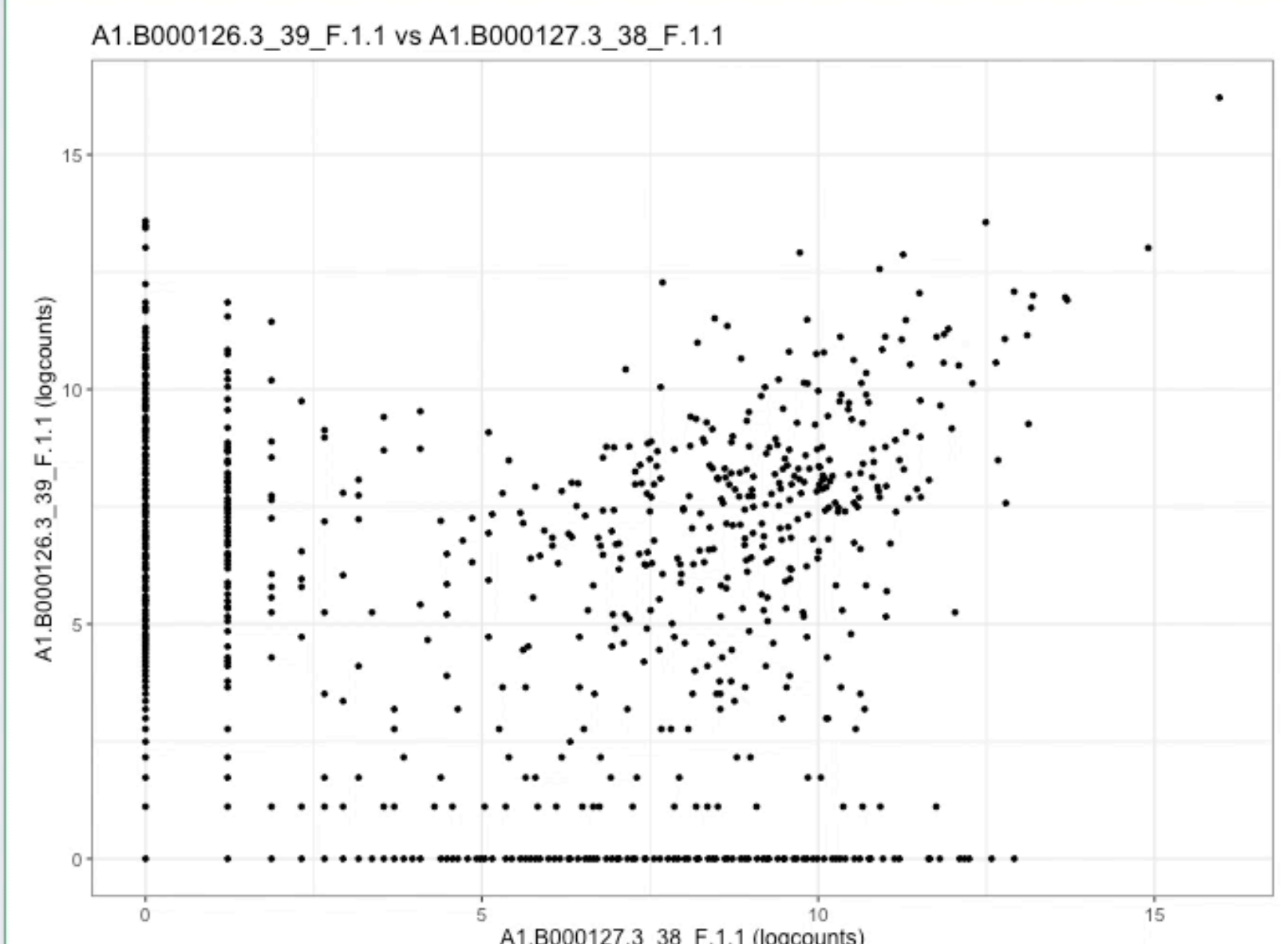
Selection effect:

Restrict Color Transparent

Manage multiple selections:

Transmitting selection to *Column data plot 1*

Sample assay plot 1

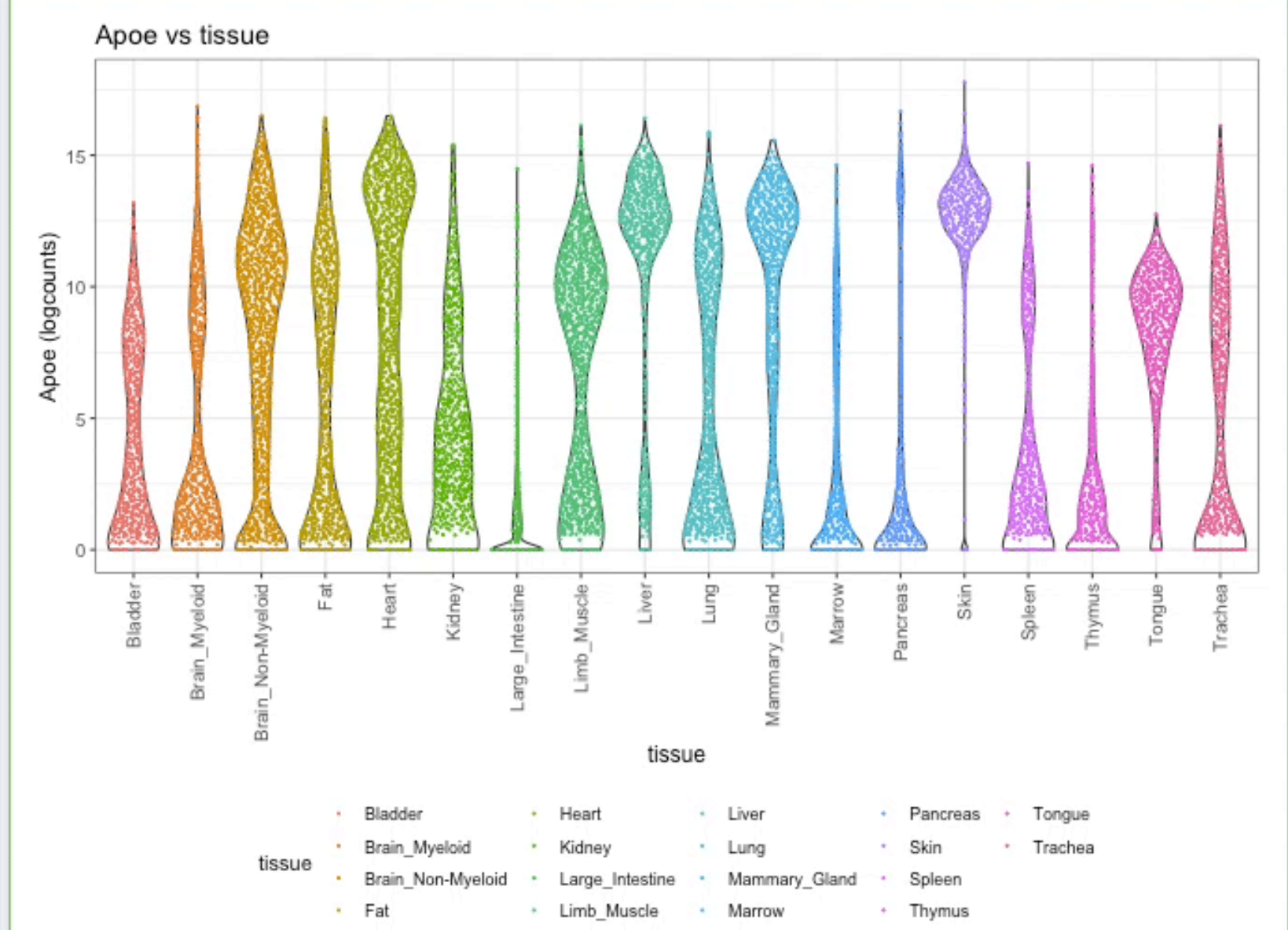


Data parameters

Visual parameters

Selection parameters

Feature assay plot 1



Data parameters

Visual parameters

Selection parameters

Receive column selection from:

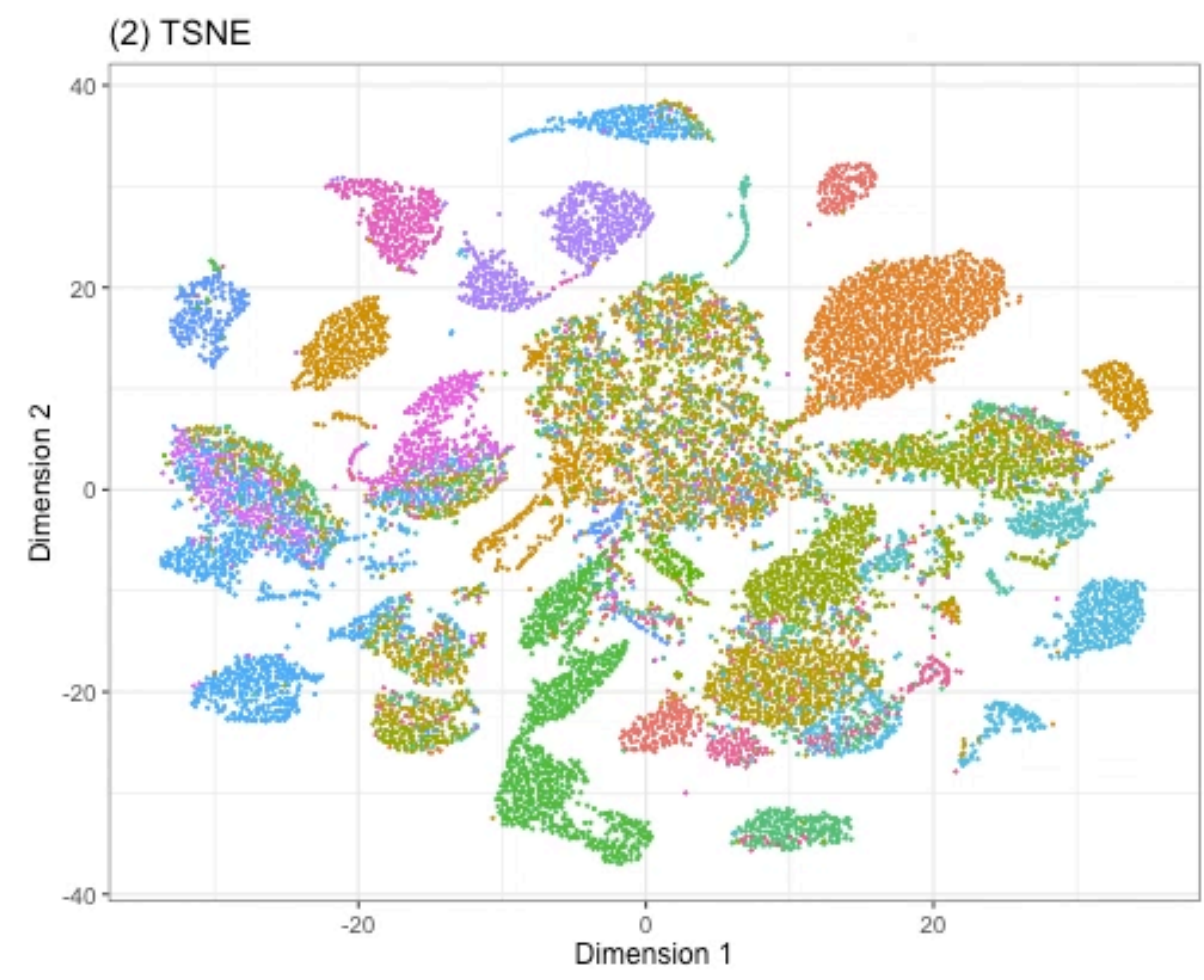
Active Union Saved

Selection effect:

Restrict Color Transparent

Manage multiple selections:

Reduced dimension plot 1



- Bladder
- Brain_Myeloid
- Brain_Non-Myeloid
- Fat
- Heart
- Kidney
- Large_Intestine
- Limb_Muscle
- Liver
- Lung
- Mammary_Gland
- Marrow
- Pancreas
- Skin
- Spleen
- Thymus
- Tongue
- Trachea

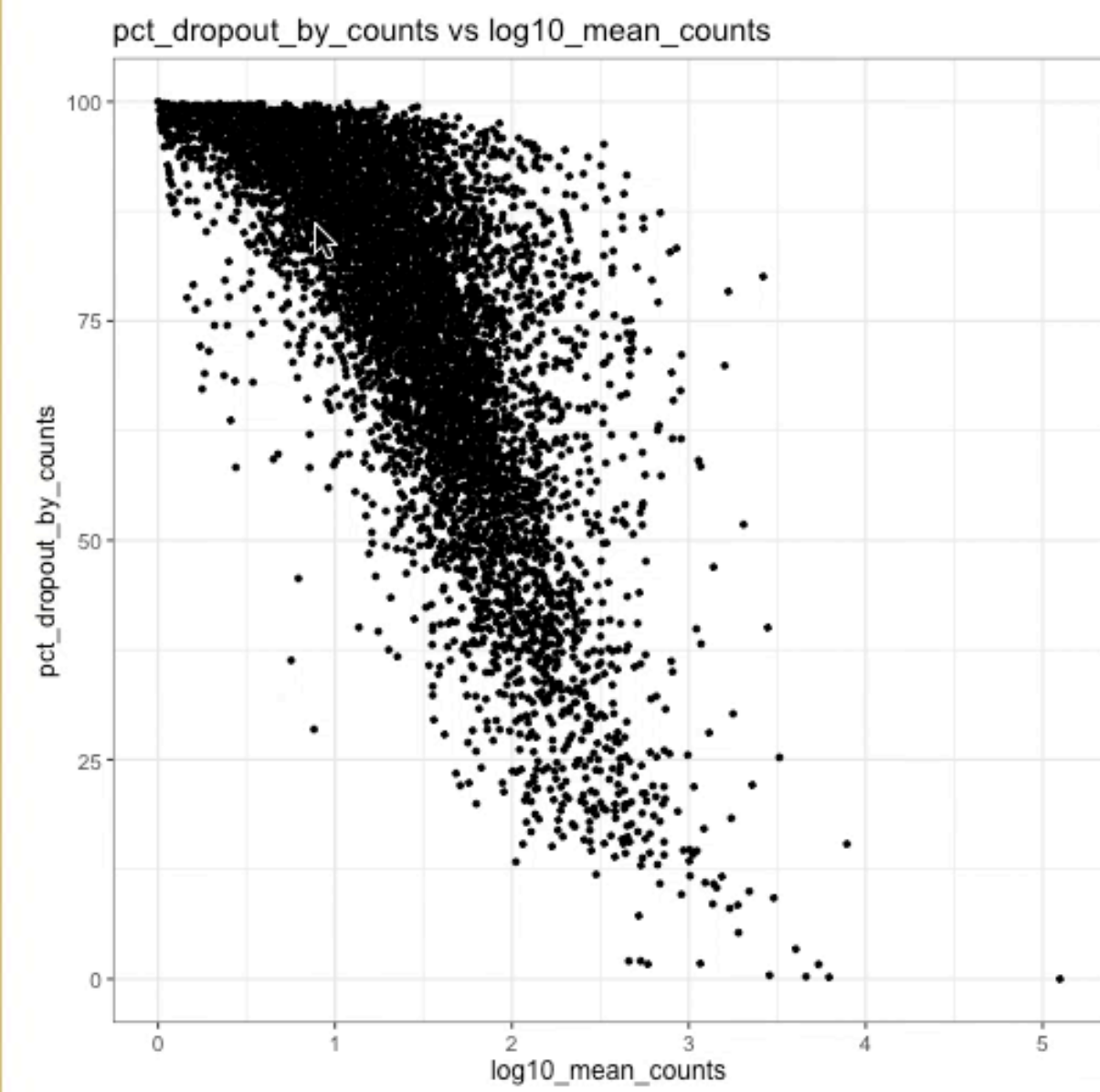
Data parameters

Visual parameters

Selection parameters

Transmitting selection to *Custom data plot 1*
 Transmitting selection to *Custom statistics table 1*

Row data plot 1



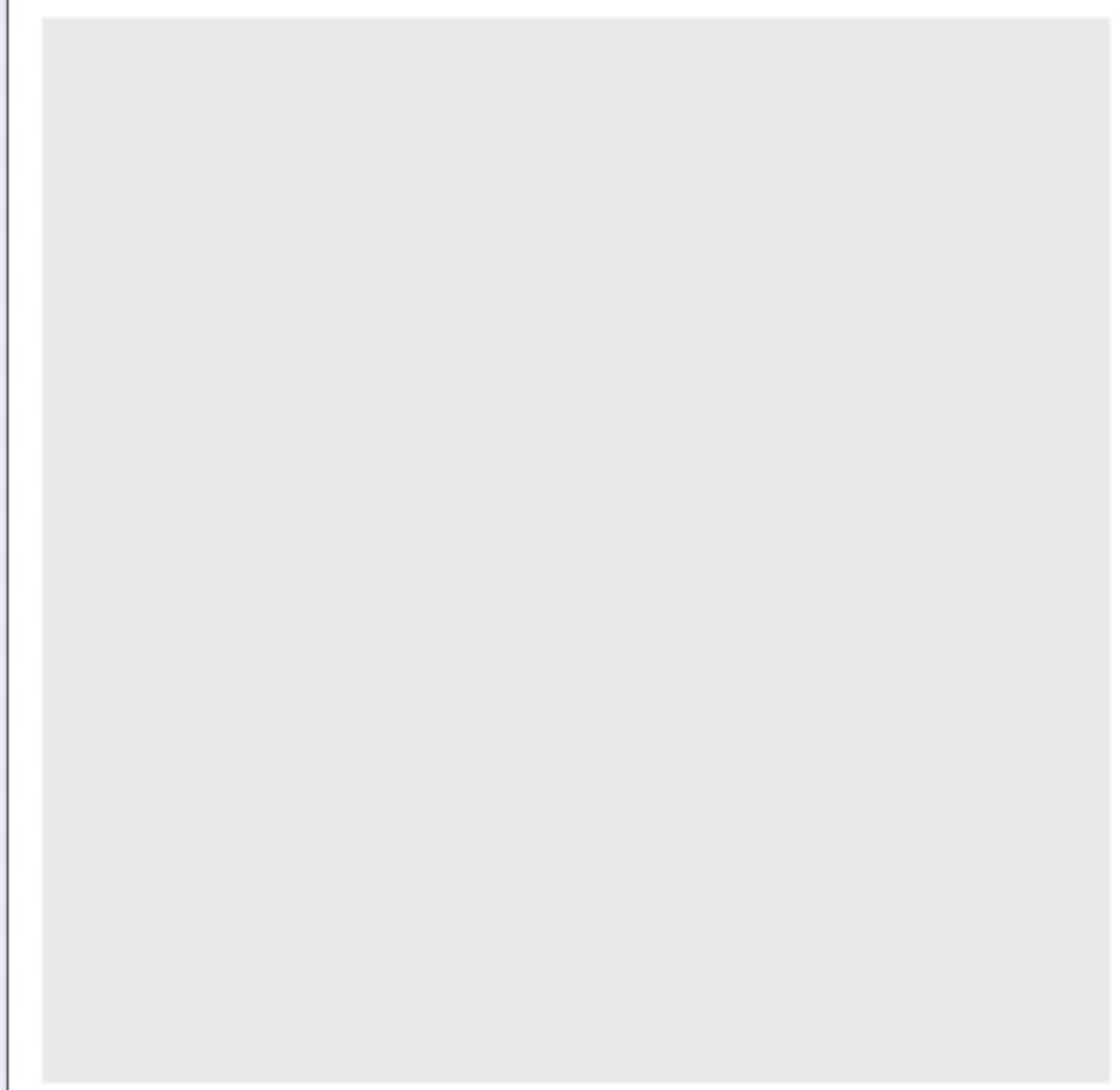
Data parameters

Visual parameters

Selection parameters

Transmitting selection to *Custom data plot 1*
 Transmitting selection to *Custom statistics table 1*

Custom data plot 1



Data parameters

Selection parameters

Receiving selection from *Row data plot 1*
 Receiving selection from *Reduced dimension plot 1*

Custom statistics table 1

Show 10 entries Search:

LogFC

All

No data available in table

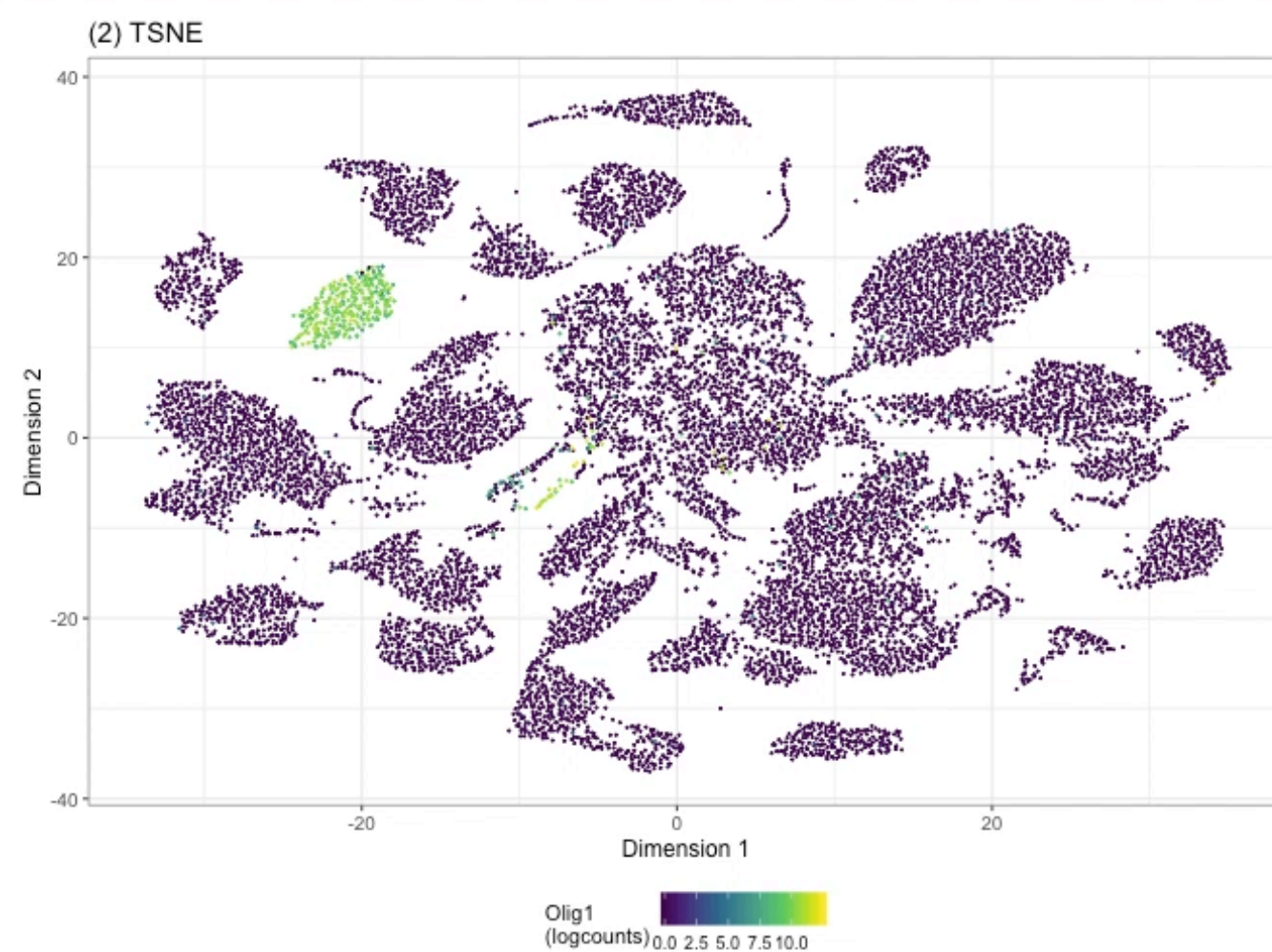
Showing 0 to 0 of 0 entries Previous Next

Data parameters

Selection parameters

Receiving selection from *Row data plot 1*
 Receiving selection from *Reduced dimension plot 1*

Reduced dimension plot 1



Data parameters

Visual parameters

- Color
- Shape
- Points
- Facets
- Other

Color by:

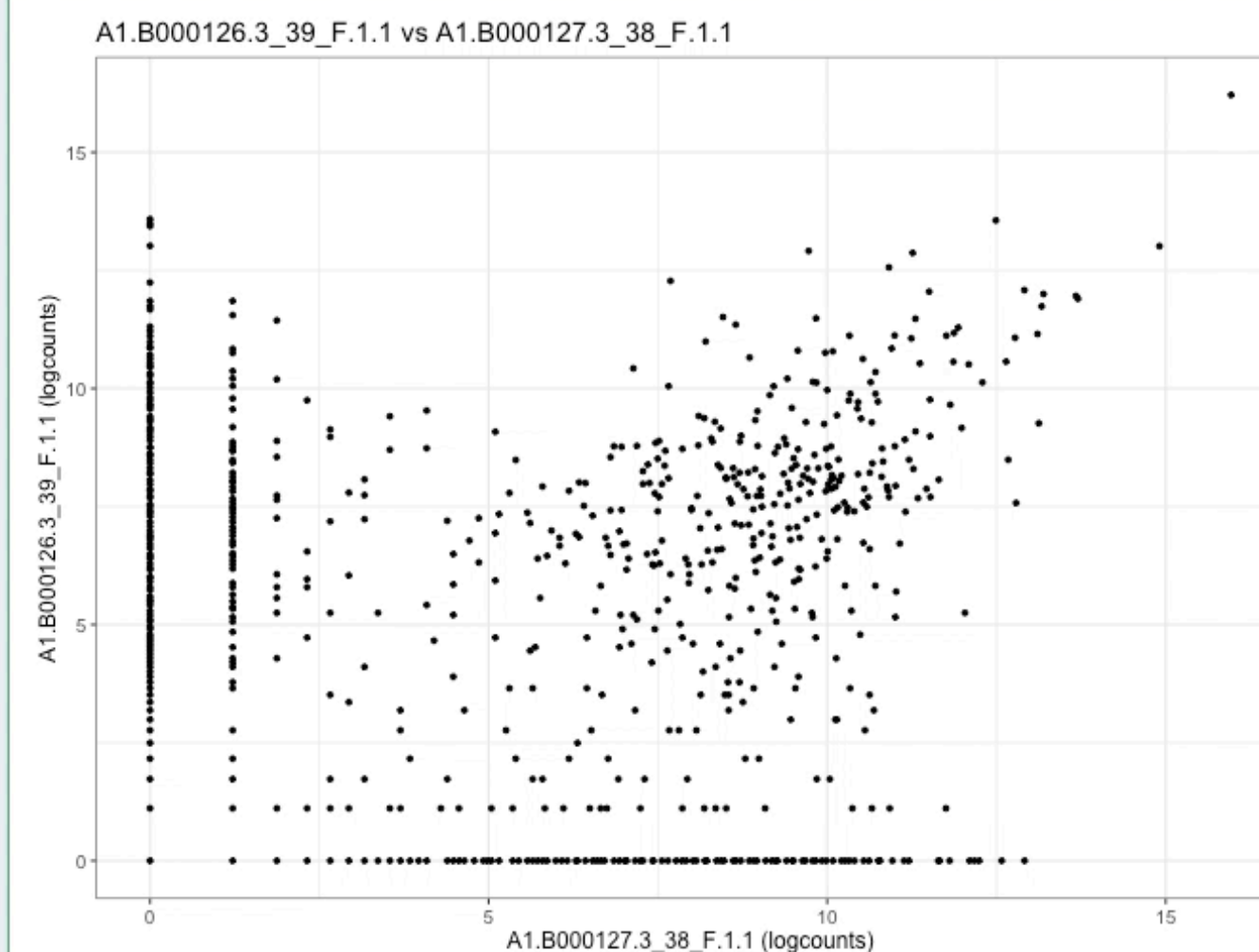
- None
- Column data
- Feature name
- Sample name

Olig1

(2) logcounts

Selection parameters

Sample assay plot 1

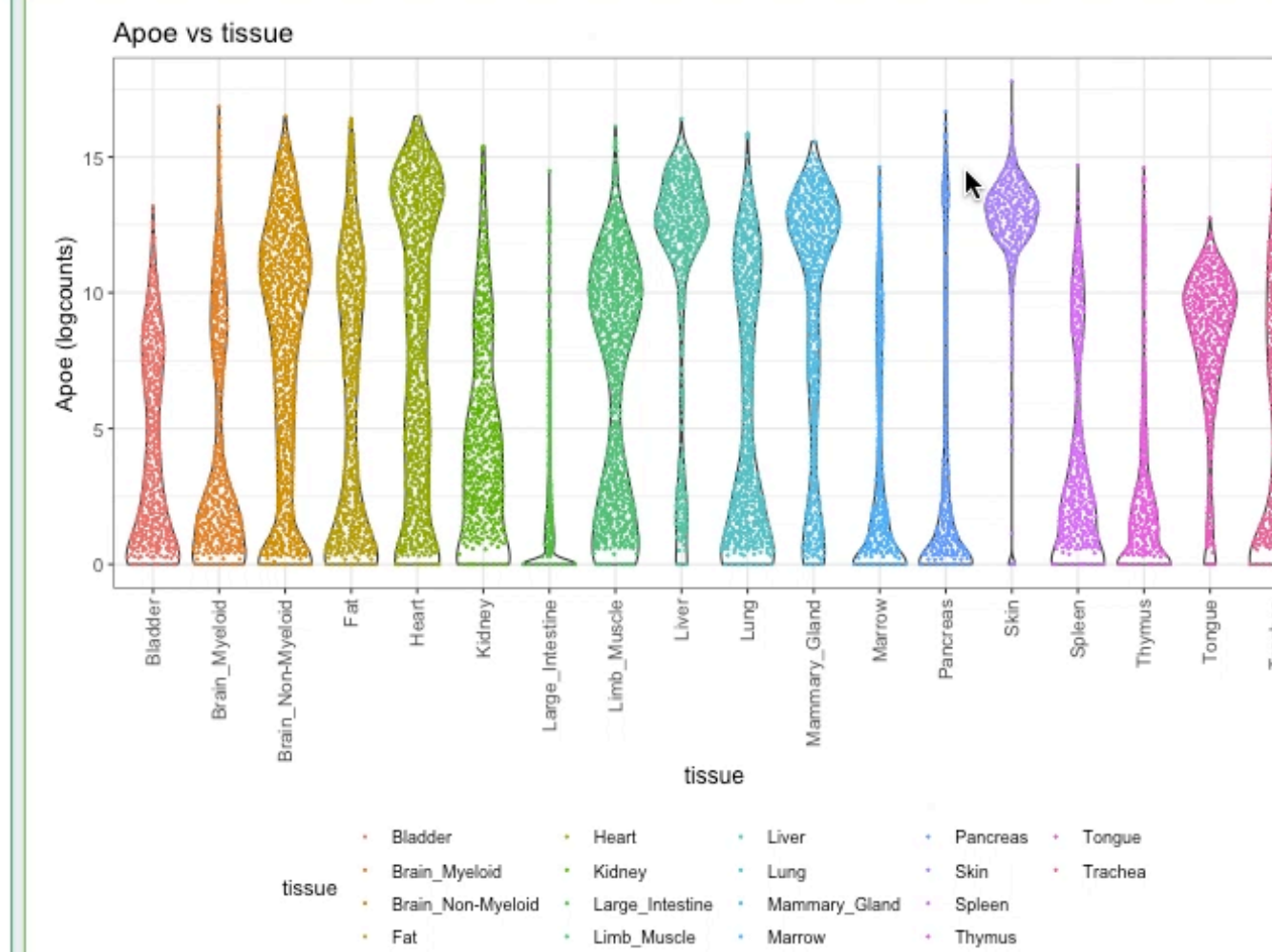


Data parameters

Visual parameters

Selection parameters

Feature assay plot 1



Data parameters

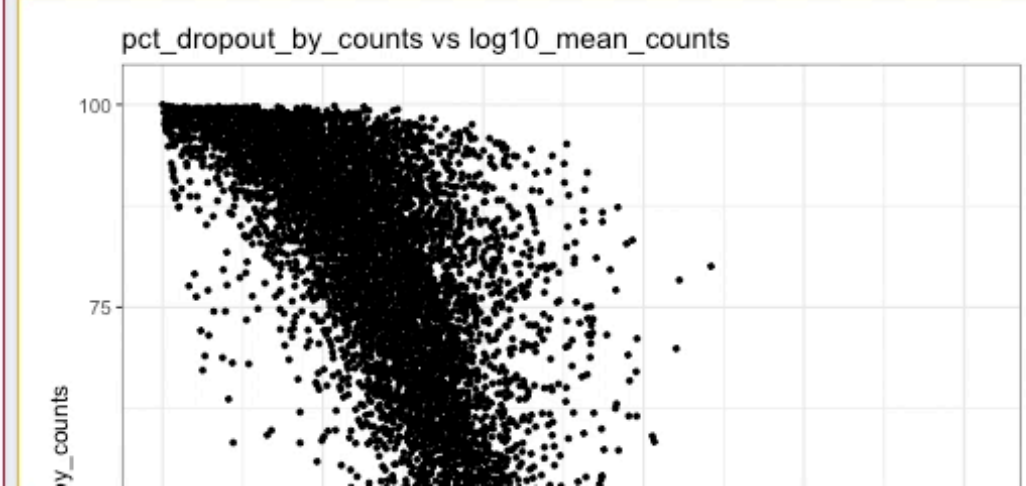
Visual parameters

Selection parameters

Column data plot 1



Row data plot 1



Column statistics table 1

Show 10 entries Search:

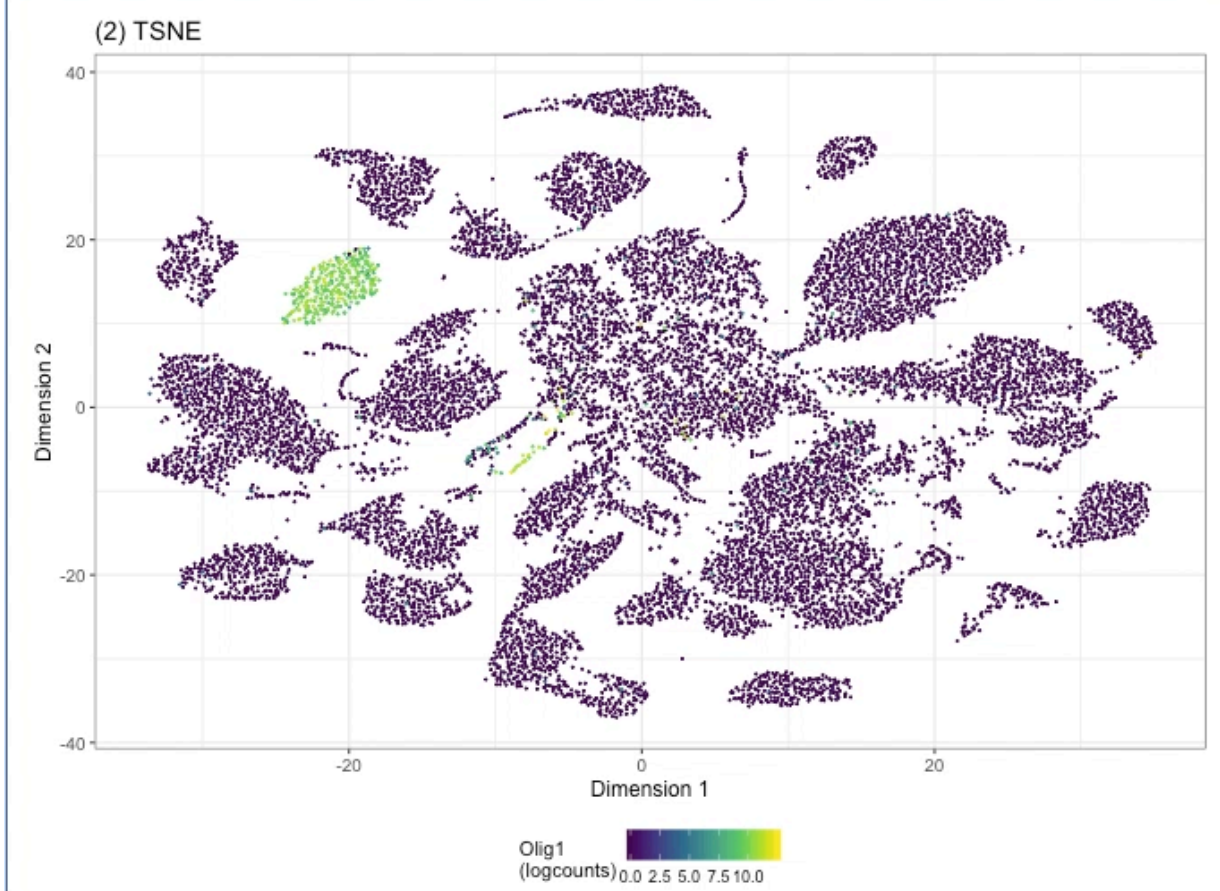
	cell	plate_barcode	mouse_
	All	All	/
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126	3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127	3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167	3-F-56

Row statistics table 1

Show 10 entries Search:

	ID	Symbol	is_feature_control
	All	All	All
0610005C13Rik	0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	0610007C21Rik	false

Reduced dimension plot 1

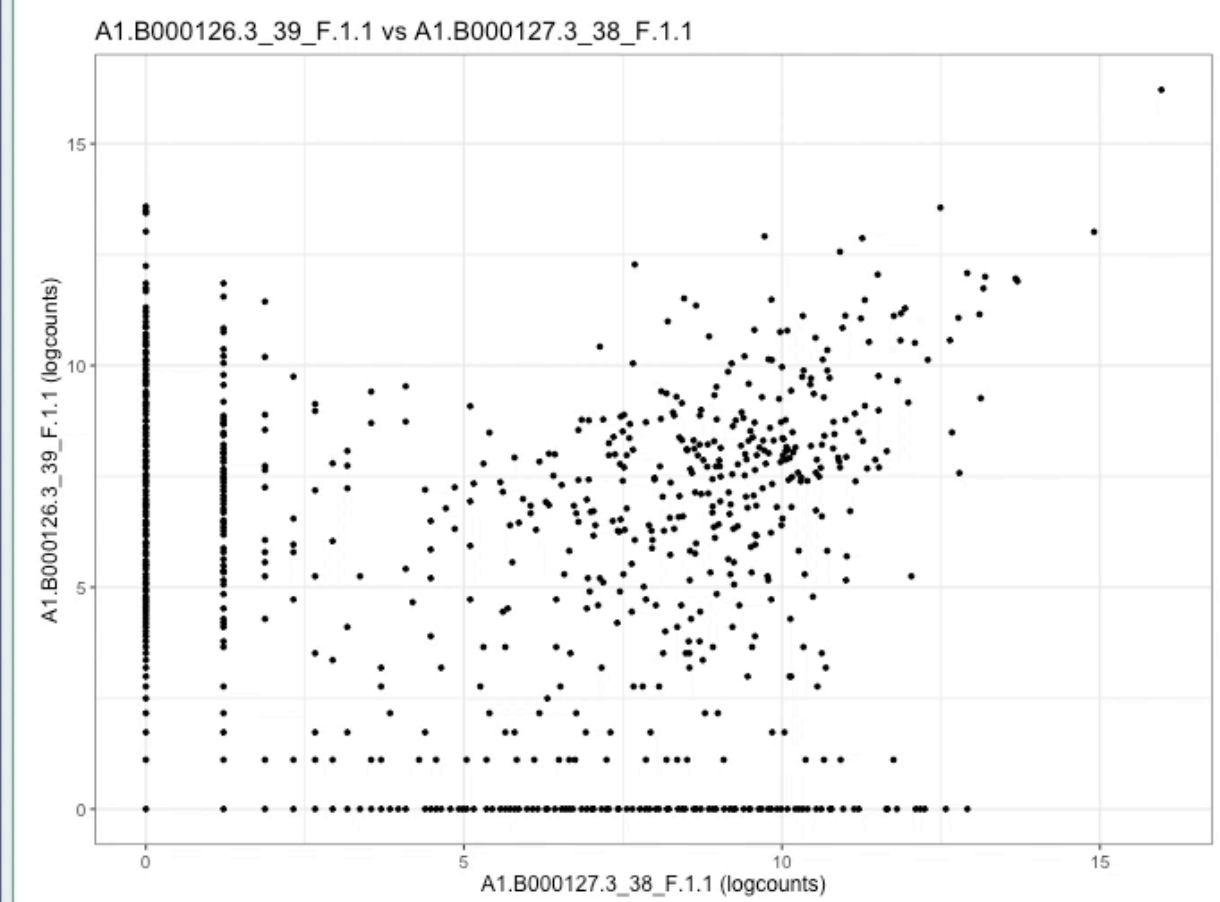


Data parameters

Visual parameters

Selection parameters

Sample assay plot 1

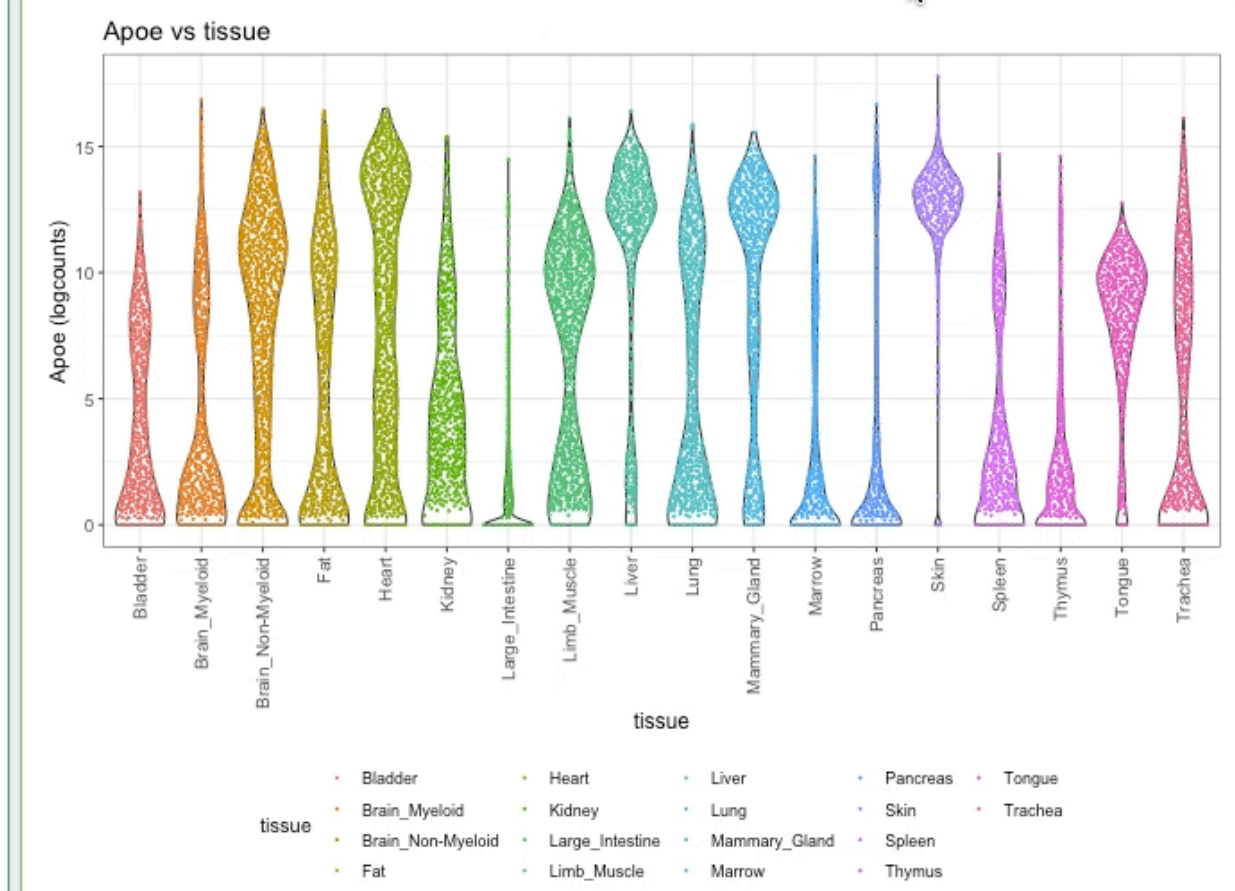


Data parameters

Visual parameters

Selection parameters

Feature assay plot 1



Data parameters

Visual parameters

Selection parameters

Column data plot 1

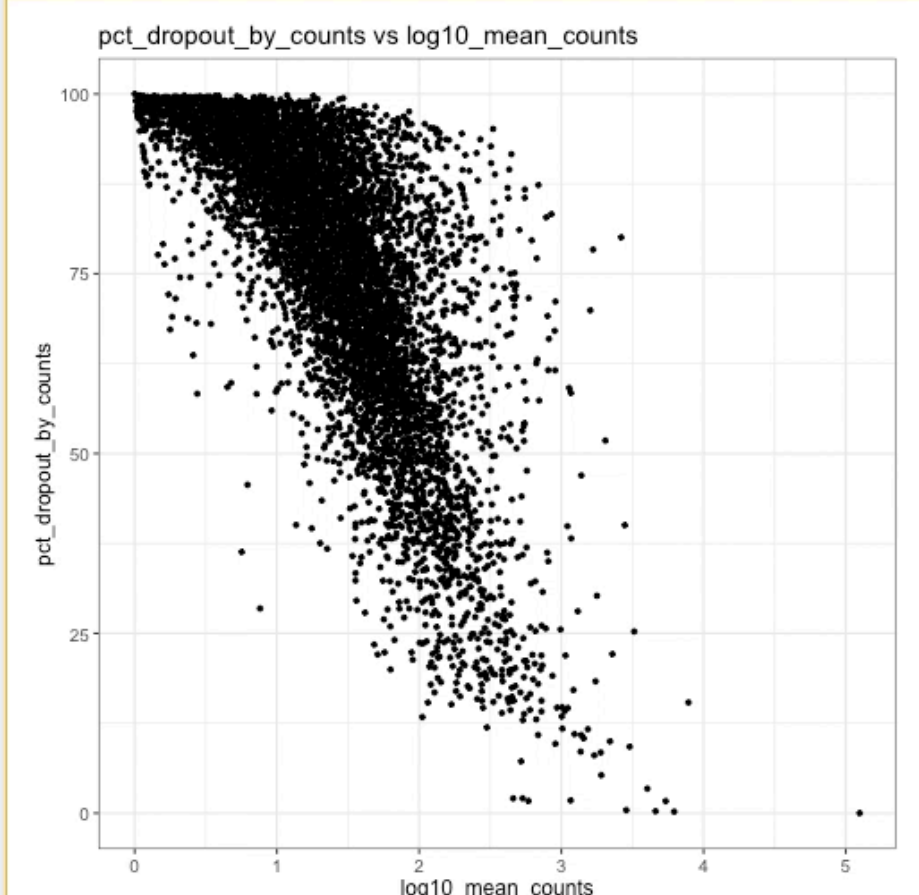


Data parameters

Visual parameters

Selection parameters

Row data plot 1



Data parameters

Visual parameters

Selection parameters

Column statistics table 1

Show 10 entries Search:

cell	plate_barcode	mouse_
A1.B000126.3_39_F.1.1	A1.B000126.3_39_F.1.1	B000126 3-F-39
A1.B000127.3_38_F.1.1	A1.B000127.3_38_F.1.1	B000127 3-F-38
A1.B000167.3_56_F.1.1	A1.B000167.3_56_F.1.1	B000167 3-F-56
A1.B000168.3_57_F.1.1	A1.B000168.3_57_F.1.1	B000168 3-F-57
A1.B000412.3_56_F.1.1	A1.B000412.3_56_F.1.1	B000412 3-F-56
A1.B000610.3_56_F.1.1	A1.B000610.3_56_F.1.1	B000610 3-F-56
A1.B000633.3_56_F.1.1	A1.B000633.3_56_F.1.1	B000633 3-F-56
A1.B000634.3_56_F.1.1	A1.B000634.3_56_F.1.1	B000634 3-F-56
A1.B000636.3_56_F.1.1	A1.B000636.3_56_F.1.1	B000636 3-F-56
A1.B000826.3_39_F.1.1	A1.B000826.3_39_F.1.1	B000826 3-F-39

Showing 1 to 10 of 53,760 entries

Previous 1 2 3 4 5 ... 5376 Next

Selection parameters

Row statistics table 1

Show 10 entries Search:

ID	Symbol	is_feature_control
0610005C13Rik	0610005C13Rik	false
0610007C21Rik	0610007C21Rik	false
0610007L01Rik	0610007L01Rik	false
0610007N19Rik	0610007N19Rik	false
0610007P08Rik	0610007P08Rik	false
0610007P14Rik	0610007P14Rik	false
0610007P22Rik	0610007P22Rik	false
0610008F07Rik	0610008F07Rik	false
0610009B14Rik	0610009B14Rik	false
0610009B22Rik	0610009B22Rik	false

Showing 1 to 10 of 23,433 entries

Previous 1 2 3 4 5 ... 2344 Next

Selection parameters

Where to learn more?

- Bioconductor package: <https://bioconductor.org/packages/iSEE/>
- Development version: <https://github.com/csoneson/iSEE>
- Publication: <https://f1000research.com/articles/7-741>
- Example apps: <https://github.com/LTLA/iSEE2018>, https://github.com/federicomarini/iSEE_instances, <https://marionilab.cruk.cam.ac.uk/>
- Custom panels: https://github.com/kevinrue/iSEE_custom
- Step-by-step tutorial: http://biocworkshops2019.bioconductor.org.s3-website-us-east-1.amazonaws.com/page/iSEEWorkshop2019__iSEE-lab/
- List of other expression browsers: <https://github.com/federicomarini/awesome-expression-browser>