

Filter groups (samples or cells)

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Filter samples or cells in order to perform downstream analysis on a subset of data.

To filter groups, click a count matrix or single cell counts data node, click the Filtering section of the toolbox, and choose to **Filter samples** (bulk data) or **Filter cells** (single cell data).

The dialog lets you build a series of filters based on sample or cell attributes.

Click **Finish** to apply the filter. If no sample or cell will pass the filter criteria, a warning message will appear and the task will not run.

Configuring a filter

The first drop-down menu allows you to choose to **include** or **exclude** based on the specified criteria.

The second drop-down menu allows you to choose any categorical or numeric attribute to use for the filter criteria.

If the attribute is **categorical**, the third drop-down menu includes **in** and **not in** as options. A fourth drop-down menu allows you to search and choose from the levels of the selected attribute (Figure 1).

The screenshot displays the 'Filter by metadata' dialog box. It features two main sections: 'Filter by metadata' (selected) and 'Filter by features'. The 'Filter by metadata' section contains a 'Filter' group with a dropdown menu set to 'include', a text input field containing 'Sample name', a dropdown menu set to 'in', and a dropdown menu set to 'SRR592573, SRR592574'. To the right of these fields is an 'OR' button. Below this group is an 'AND' button. The 'Filter by features' section is partially visible and contains a 'Filter' group with a dropdown menu set to 'include', a text input field containing 'A4GALT', and a dropdown menu set to '<'. Below this group is an 'AND' button. A search dropdown menu is open, showing a search bar with a magnifying glass icon and a list of sample IDs: SRR592573, SRR592574, SRR592575, SRR592576, SRR592577, SRR592578, SRR592579, SRR592580, and SRR592581. The first two items, SRR592573 and SRR592574, are checked with blue checkboxes.

Figure 7. Filtering by a categorical attribute

If the attribute is **numeric**, the the third drop-down includes:

- <: less than
- <=: less than or equal to
- == equal to
- >: greater than
- >=: greater than or equal to

The threshold is set using the text box (Figure 2). The input must be a number; it can be an integer or decimal, positive or negative.

Filter by metadata

Filter

include ▾ # Cells ▾ > ▾ 500.000 ⬆ ⬆ **OR**

AND

Figure 8. Filtering groups by a numeric attribute

Configuring multiple filters

Using the **OR** and **AND** options, you can combine multiple filters.

When combining multiple filters all set to **Include**:

With **AND**, if all statements must be true for the sample to meet the filter criteria.

With **OR**, if any statement is true, the sample will meet the filter criteria.

When combining multiple filters all set to **Exclude**:

With **AND**, if any statement is true, the sample will meet the filter criteria.

With **OR**, all statements must be true for the sample to meet the filter criteria.

Filter groups task report

The filter groups task report lists the filter criteria and reports feature distribution statistics for the remaining samples (Figure 3).

Filter criteria exclude Sample name in SRR592573

Feature distribution (8 samples; 427 genes)

Optional columns

Sample name ↑⇅	Min ↑↓	2nd min ↑↓	Max ↑↓	Mean ↑↓	Median ↑↓	Q1 ↑↓	Q3 ↑↓	Missing ↑↓
SRR592574	0	1E-4	30,171.4	1,368.9	478.7	110.9	1,405.5	0
SRR592575	0	0.4	24,059.6	1,247.0	464.2	102.8	1,361.0	0
SRR592576	3.8	11.5	17,191.7	1,078.4	485.4	122.2	1,234.0	0
SRR592577	9.0	12.9	17,432.7	1,163.0	468.9	142.0	1,400.4	0
SRR592578	2.7	8.0	17,712.0	1,142.0	486.2	131.6	1,352.6	0
SRR592579	0	1E-4	18,106.1	941.5	401.2	102.2	1,018.1	0
SRR592580	0	1E-4	20,213.8	1,180.5	478.8	112.9	1,330.3	0
SRR592581	0	3.7	16,184.4	932.7	440.4	99.6	1,095.7	0
All samples	0	1E-4	30,171.4	1,131.7	465.4	114.6	1,263.8	0

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Of the 9 samples, 88.89% passed the filter (8 passed, 1 filtered out)

Figure 9. Filter samples task report - feature distribution table

If the input was a count matrix data node, the percentage of samples remaining after the filter is listed and charts are provided to show the breakdown of samples by categorical attributes before and after filtering (Figure 4).

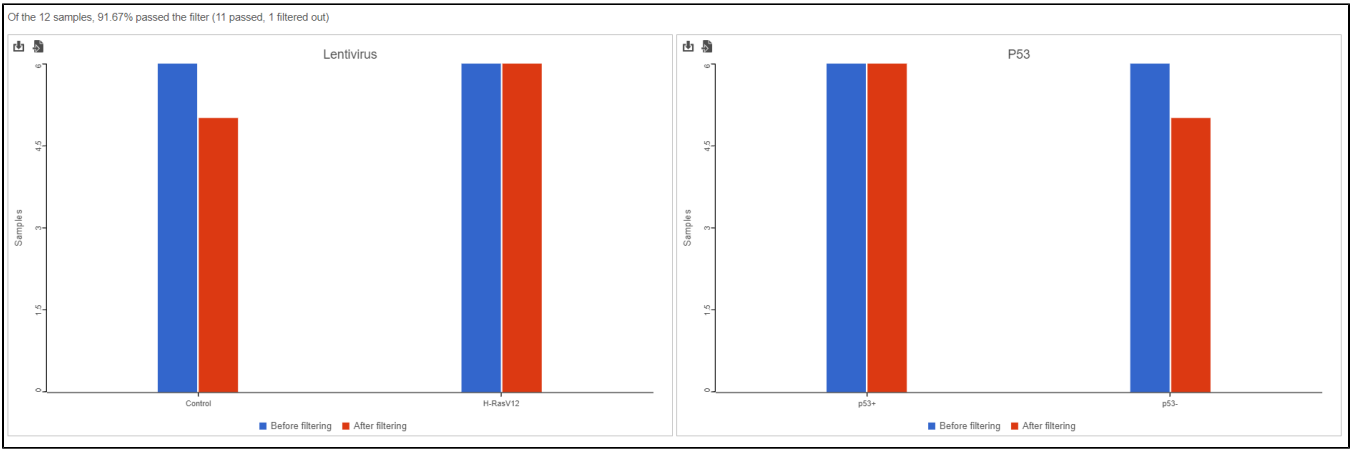


Figure 10. Filter samples report - feature distribution table

If the input was a single cell counts data node, a second table displays the details from each sample based on the filtered criteria (Figure 5).

Filter criteria exclude Classifications is N/A

Feature distribution (12 samples; 2,120 features)

Optional columns

Sample name 	# Cells 	Min 	2nd min 	Max 	Mean 	Missing 
CT1	3468	0	6.3	19.1	2.8	0
CT2	5261	0	6.4	19.3	2.2	0
CT3	2799	0	6.5	19.0	1.9	0
CT4	4336	0	6.1	19.1	2.5	0
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C15	4131	0	6.3	19.2	2.8	0
SC1	6570	0	6.2	19.0	2.9	0
SC2	7882	0	6.3	19.4	2.5	0
SC3	4588	0	6.3	19.1	2.4	0
SC4	3678	0	6.5	19.0	2.1	0
SC5	4329	0	6.4	19.6	2.4	0
SC6	6668	0	6.2	19.2	2.7	0
SC7	7493	0	6.4	19.0	2.8	0
All samples	N/A	0	6.1	19.6	2.6	0

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Figure 11. Filter cells - cell classification table

If the input was a classified groups single cell counts data node, the cell count table includes a breakdown by classification and a bar chart is provided to show the number of cells from each classification remaining after filtering (Figure 6).

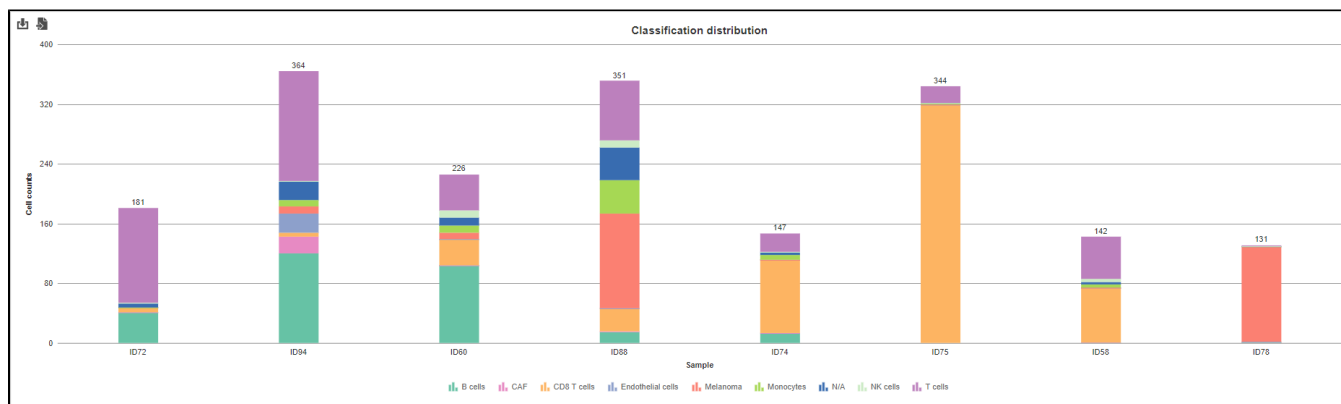


Figure 12. Filter cells - classification bar chart

Additional Assistance

If you need additional assistance, please visit [our support page](#) to submit a help ticket or find phone numbers for regional support.



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