Partek® Flow® offers the DESeq2 method for differential expression detection. The implementation details for DESeq2 can be found at the external DESeq2 documentation page, which includes changes made by the algorithm authors since the publication of the original manuscript (Love, Huber, and Anders 2014).

The DESeq2 task can be invoked from data nodes generated by quantification tasks that contain raw read count values for each feature in each sample (Gene counts, Transcript counts, microRNA counts, etc.). DESeq2 cannot be run on a normalized counts data node because DESeq2 internally corrects for library size.

If the value of the raw count includes a decimal fraction, the value will be rounded to an integer before DESeq2 is performed.

Configuring DESeq2

Categorical and numeric attributes, as well as interaction terms can be added to the DESeq2 model. The DESeq2 configuration dialog for adding attributes and interactions to the model is very similar to the ANOVA configuration dialog. However, DESeq2 has two important limitations not shared by GSA or ANOVA.

First, interaction terms cannot be added to contrasts in DESeq2. In order to perform contrasts of an interaction term in DESeq2, a new attribute that combines the factors of interest must be added and the contrast performed on the new combined attribute. This limitation of DESeq2 is detailed in the official DESeq2 documentation page. To perform contrasts of interaction terms without creating new combined attributes, please use either the GSA or ANOVA method.

Second, DESeq2 only allows two subgroups to be compared in each contrast. To analyze multiple subgroups, please use either the GSA or ANOVA method.

DESeq2 report

The report produced by DESeq2 is similar to the ANOVA report; each row is a feature and columns include p-value, FDR p-value and fold change in linear scale for each contrast.

References


Additional Assistance

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