

# sample grouping

qbase<sup>PLUS</sup>



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## Subject

### Detailed information

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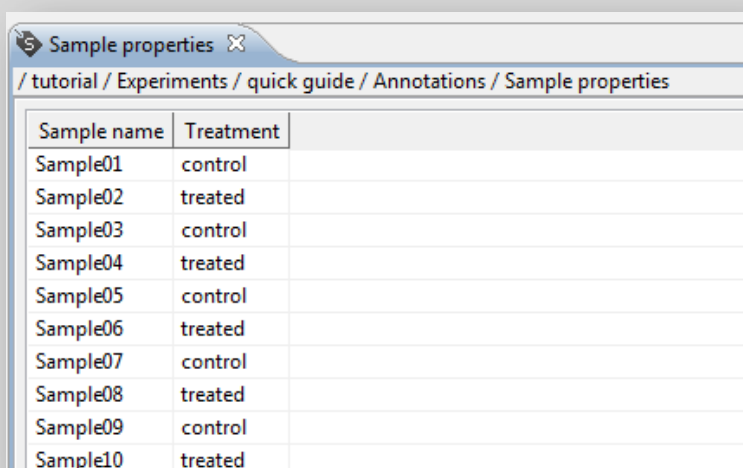
## Subject

To enable visual result interpretation and statistical analysis, qbase<sup>PLUS</sup> 2.0 supports the use of custom sample properties that can be added as extra information for the samples. This chapter describes how custom sample properties can be entered in qbase<sup>PLUS</sup> and how these can be used.

## Detailed information

To enable statistical analysis and visual result interpretation, qbase<sup>PLUS</sup> 2.0 supports the use of custom sample properties that can be added as additional information for the samples. Each property contains different values, for example: the property 'Treatment' may have 'control' and 'treated' as its values (Figure 1).

- ▼ Figure 1 – Sample properties window



Sample name	Treatment
Sample01	control
Sample02	treated
Sample03	control
Sample04	treated
Sample05	control
Sample06	treated
Sample07	control
Sample08	treated
Sample09	control
Sample10	treated

## Step 1 - Enter custom properties

There are two ways to enter custom properties and its corresponding values in qbase<sup>PLUS</sup>.

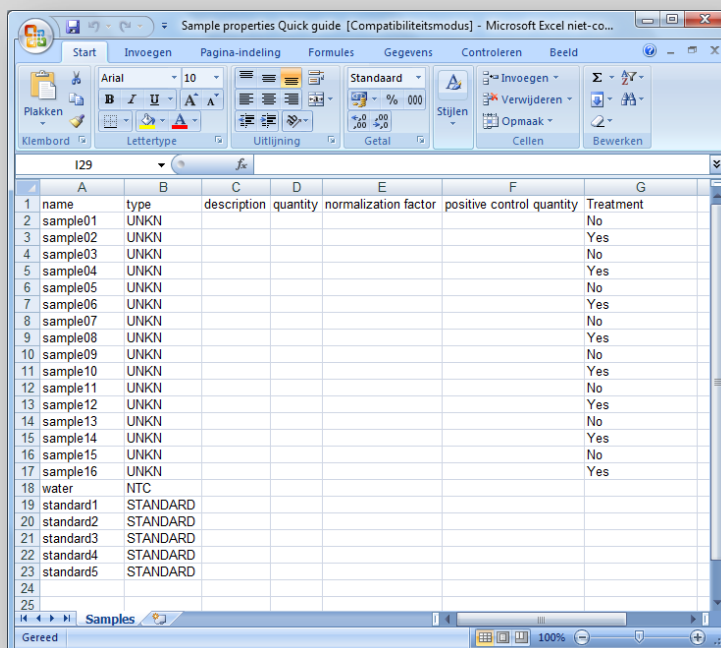
- Custom properties can be manually entered in the Sample properties window (Figure 1). To access the Sample properties window, double click on the Annotations icon and then on the Sample properties icon. Custom properties are used for visualization (sample grouping and rescaling) and statistics.  
To create a custom property click Add property at the bottom and enter a name for the property. For each sample, a property value should be entered for the newly added property (samples with no value will be ignored in the statistical analyses).

In addition to the complete overview of sample properties in the Sample properties window, properties for a given sample can be found in the Properties tab of the Sample window.

- Importing sample properties from a sample import file (Figure 2) is a faster alternative to the individual creation of new samples or properties. The format of these import files, as well as example files can be found at <http://www.biogazelle.com/support/qbaseplus/formats>.

More information about entering custom properties can be found in the 'Run annotation' chapter (<http://www.biogazelle.com/support/qbaseplus/manual>).

Figure 2 – Sample import file



	A	B	C	D	E	F	G
1	name	type	description	quantity	normalization factor	positive control quantity	Treatment
2	sample01	UNKN					No
3	sample02	UNKN					Yes
4	sample03	UNKN					No
5	sample04	UNKN					Yes
6	sample05	UNKN					No
7	sample06	UNKN					Yes
8	sample07	UNKN					No
9	sample08	UNKN					Yes
10	sample09	UNKN					No
11	sample10	UNKN					Yes
12	sample11	UNKN					No
13	sample12	UNKN					Yes
14	sample13	UNKN					No
15	sample14	UNKN					Yes
16	sample15	UNKN					No
17	sample16	UNKN					Yes
18	water	NTC					
19	standard1	STANDARD					
20	standard2	STANDARD					
21	standard3	STANDARD					
22	standard4	STANDARD					
23	standard5	STANDARD					
24							
25							

## Step 2 - Use sample properties

Sample properties can be used for different purposes.

- *Group results in target bar charts*  
This functionality facilitates interpretation of results when 2 or more sample groups need to be compared (Figure 3).  
To group results in target bar charts, open the Property 1 drop down menu in the Grouping box at the bottom of the target bar chart and select a custom property to make sample subgroups.
- *Rescale results relative to the average from a given sample subgroup*  
This new function enables results to be rescaled relative to the average result for an entire subgroup (i.e. all the samples with the same value for a given sample property). This function is typically used to compare results between 2 groups, e.g. treated samples against untreated controls. After rescaling, the geometric average of all samples in the scaling subgroup is 1.

The parameters for target scaling can be defined in the Calculation parameters window (Project Explorer > Settings > Calculation parameters).

The default option for target scaling is 'Scale to average'; to rescale to the average of the results from a subgroup, Scale to group option should be selected. The group is defined by selecting a property and a value in the Scaling group box.

- *Perform statistical analysis [premium license only]*  
Sample properties are an indispensable part of a statistical analysis in which they are used to restrict the analysis to specific subgroups of samples, or to compare 2 or more groups against each other.
- *Store additional sample information*  
Combining data and results with additional sample information may help future interpretation of the results.

Figure 3

