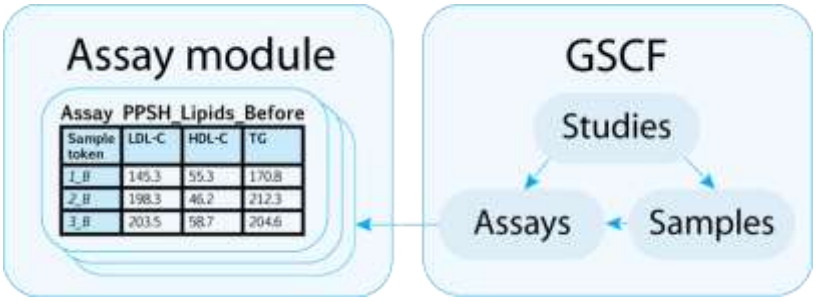
SAM User Guide

This guide will help you walk through the Simple Assay Module (SAM), a module attached to the Generic Study Capture Framework (GSCF).

In this module it is easy to import bulk numerical data from e.g. Excel files. In general, it is used to store clinical data, such as Rules Based Medicine assays, but also physical measurements such as body weight of mice.



Content

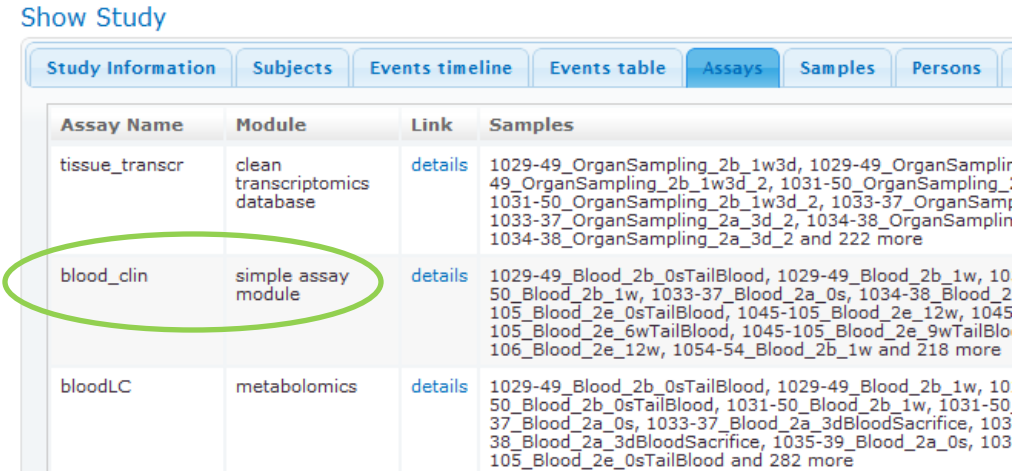
1 GSCF – Studies, samples, assays

(See GSCF User Guide for more details.)

SAM makes use of sample information that is created in GSCF. Therefore, in GSCF you need to create a study, define study information, and create subjects and subject information. Then, by adding events and sampling events, together with subjects and subject groups, this will create samples. (E.g. a blood sampling event for 50 subjects, on every first day of the week during 5 weeks)

The last step in GSCF is to define assays. You can define which samples are analyzed in what type of assay. This will allow you, depending on the assay type, to attach measurements or data files to samples.

Example of different assay types from GSCF:



2 Features

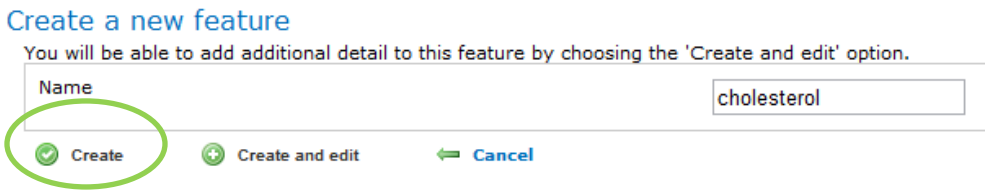
What is a feature?

A feature is a substance or indicator that is measured when a sample is taken. For example, glucose, leptin, CD40, bodyweight, urea.

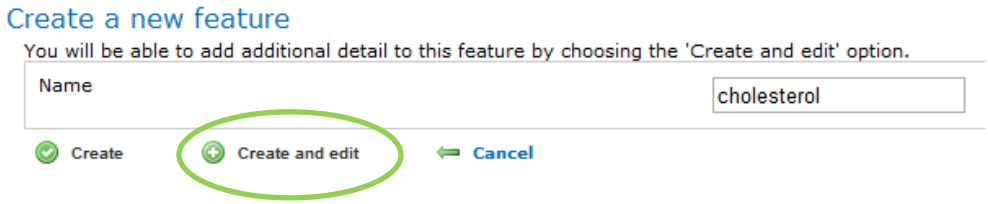
How can I create a feature manually?

Go to *Browse* > *Features*. On top of the page, click *Create new feature.*

Enter a name (required) and click *Create* for a quick save.



If you want to add a unit (optional), click *Create and edit*.



In this screen you can also define a template (optional). This will allow you to add additional fields for this feature, or a group of features. E.g. to indicate a supplier of clinical chemistry data, by which features can also be grouped.

How can I import a list of features?

Go to *Import* > *Features*. This will start the feature importer.

1. **Locate and upload your Excel file** with feature names and units:

	A	B
1	Feature name	Unit
2	Alpha-1 Antitrypsin	mg/mL
3	Adiponectin	ug/mL
4	Alpha-2 Macroglobulin	mg/mL
5	Alpha-Fetoprotein	ng/mL

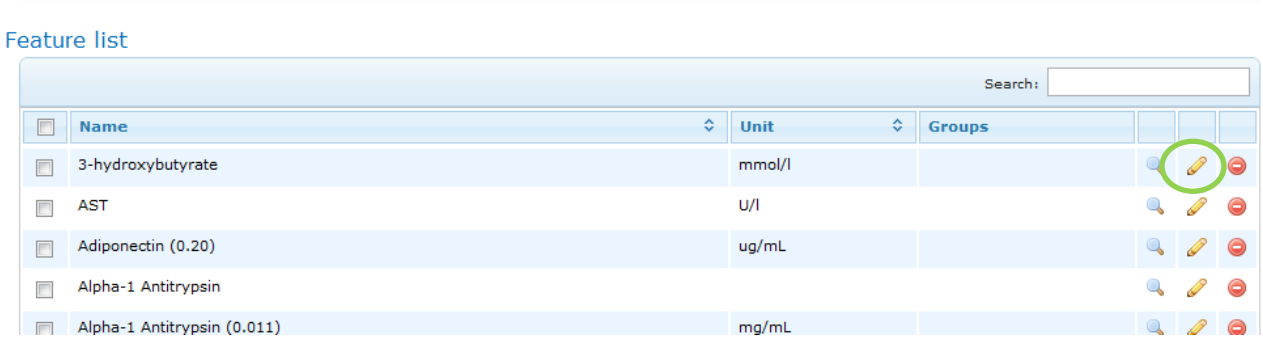
2. **Match your columns** with name and unit.

3. **Check your input**, and make changes were needed.

4. **Save** your features.

Where can I edit my feature?

Go to *Browse* > *Features* and click the pencil (on the right) to edit a certain feature.



3 Measurements

What is a measurement?

A measurement is a single value that belongs to a sample. For example, glucose level is measured for a sample.

How can I import measurements?

Start the measurement importer by clicking, Import > Measurements.
Important: to attach measurements to samples you need to have an assay with samples (see 1 GSCF – Studies and Samples).

1. **Choose the assay** for which you want to upload measurements.
   Note: if your assay is not in the list, please check your assay and samples in GSCF, because only assays that contain samples for SAM are listed here

2. **Locate and upload your Excel file** with measurements (see screenshot for an example)

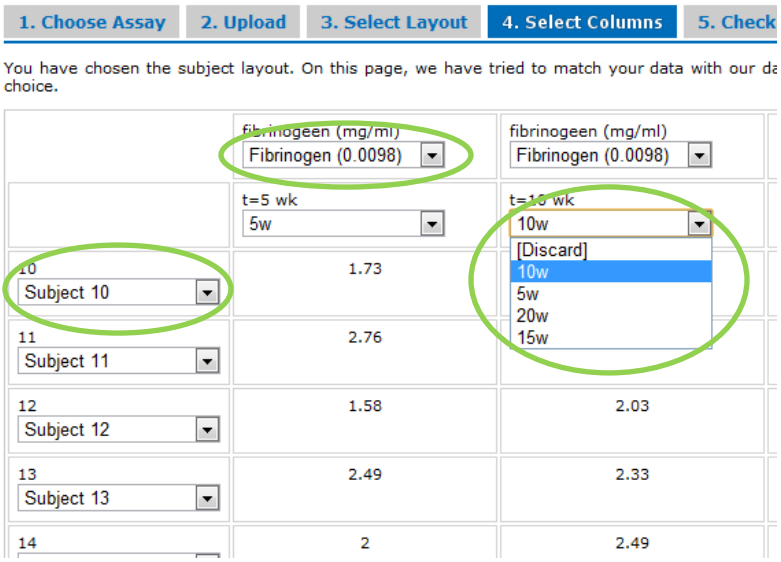
3. **Choose your layout:**
   Sample layout has multiple features per *sample*.
   See example:

	A	B	C	D	E
1	Parameter	Na+ (mmol/l)	K+ (mmol/l)	tCO2 (mmol/l)	Cl- (mmol/	G
2	1B1	139	4.5	26	103	
3	1B2	136	4.3	28	103	
4	1B3	139	4.6	27	106	
5	1B4	137	4.6	26	104	
6	1F	133	4.5	29	98	
7	2B1	137	3.9	27	101	
8	2B2	139	3.9	25	100	
9	2B3	135	4	26	101	
10	2B4	138	4.2	25	103	
11	2F	133	3.8	23	97	

   Subject layout usually contains measurements for multiple time points, and only 1 feature.
   See example:

	A	B	C	D
1		glucose (mmol/l)	glucose (mmol/l)	glucose (mmol/l)
2	muis	t=0 wk	t=4,5 wk	t=8 wk
3	200	12.34	12.95	12.22
4	201	11.66	12.38	14.53
5	202	3.06	10.17	10.25
6	203	10.51	10.40	11.54
7	204	7.87	10.13	10.21
8	205	9.87	9.98	9.41
9	206	6.64	6.79	5.67
10	207	10.97	11.81	10.82
11	208		12.87	14.04
12	209	3.58	13.85	8.26

4. **Match your colum**ns with features (and time points). Click on *Add new feature* if you want to add more features.
   Match your rows with subjects or sample names.



5. **Check your input**.
   In this step you can click on each cell of the measurements if you want to make any adjustments.
   Note: if cells contained text instead of numerical data, this data is stored as a comment.

   Cells become editable after click:

6. **Save** your measurements.

How can I view my uploaded measurements?

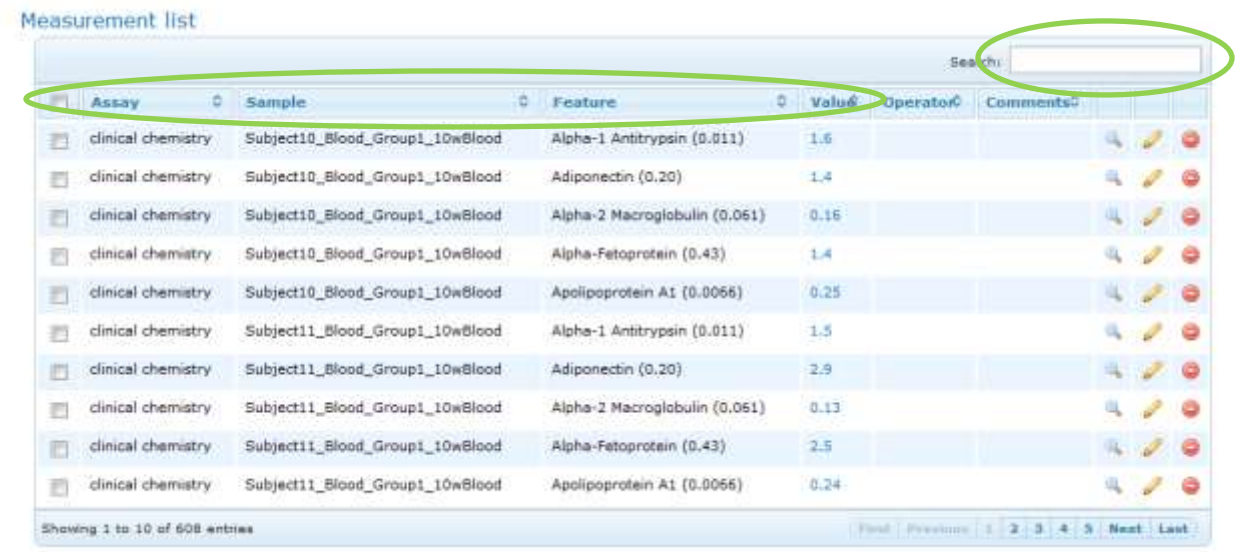
Click Browse > Assays and click on the magnifying glass on the right, to view a certain assay with measurements

Can I edit my uploaded measurements?

Yes. Click Browse > Measurements.

Here you can see a list of all measurements in your assays. This table can be *sorted* by assay, sample, feature and value. There is also a direct *search bar* on the top right.

Click the pencil on the right to edit a certain measurement.



Can I delete measurements?

Yes, you can delete all measurements from an assay: Click Browse > Assays and click on the magnifying glass on the right. In this screen you can see all your measurements for this assay.

At the bottom, click on *Delete all measurements*.