MICROME SOPs		
Title: **Gene-Protein-Reaction (GPR) association in MicroScope environment**		Pages: 2
SOP06	Revision level: 1	Effective date: 08/25/2011
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1-Overview

The results of the pathway prediction curation process may consist in the correction of specific Gene-Protein-Reaction (GPR) associations. The curator will then improve the overall metabolic network by linking gap reactions to their corresponding enzymes. These connections are made in the gene editor of the MicroScope platform.

1.1-Scope

Use of GPR association functionality of the MicroScope platform to link specific MetaCyc reactions to the corresponding UniProtKB entries.

1.2-Related documents

MicroScope publication: Vallenet D., et al. MicroScope: a platform for microbial genome annotation and comparative genomics. Database (Oxford). 2009;2009:bap021. Epub 2009 Nov 25.
MicroScope tutorial: http://www.genoscope.cns.fr/agc/microscope/tutorial
MicroScope home page: http://www.genoscope.cns.fr/agc/microscope

SOP02 – Reaction curation in Rhea environment
SOP05 – Pathway prediction curation in MicroScope environment
SOP10 – Procedures for automatic pathway projection

1.3-Revision history

Author	Date	Change
EB	07/28/2011	Creation of the document
DM	07/29/2011	Revision
DV	08/24/2011	Revision
FLF	08/25/2011	Revision

2-Requirements

- User account in MicroScope platform
- Genome present in MicroScope database
- Organism metabolic pathway prediction
- List of reaction gaps and identified candidate proteins (SOP05)

3-Procedure

For each identified protein, the curator uses the MicroScope gene editor to assign the correct MetaCyc reactions to the corresponding protein.

3.1 Login to MicroScope

Once you are registered, enter your name and password.

3.2 Genome selection

Select the genome of interest and move to the genomic region containing the gene to curate.

3.3 GPR Creation

Open the gene editor by clicking on the gene and correct the list of MetaCyc reactions associated to the corresponding protein.

(See tutorial “Overview of the annotation editor”:
http://www.genoscope.cns.fr/agc/website/spip.php?page=related&tool=info)

3.4 Gene annotation

Correct if necessary the other fields of the editor. Check the consistency of the annotation especially for the product and EC number fields that may be coherent with the created GPR.

3.5 Save the modifications

Click on SAVE button.
Some warnings may occur if inconsistencies in the annotations are raised. Make the corrections if necessary and SAVE again.

4-Data management

4.1-Quality control

Reaction descriptions use valid MetaCyc identifiers.
Inconsistencies between the different fields of the gene editor are automatically detected.
The metabolic pathway prediction is recomputed automatically within 24 hours and allows the curator to check the improvements of the results.