

## Find Functions: Enzyme

From the **Find Functions** top-level menu, the **Enzyme** option on the second-level menu leads to the Enzymes browser, as shown in Figure 1(i). This window lists all enzymes loaded in IMG together with pre-computed statistics.

**(i) Enzymes**

Select	ID	Name	Isolate Genome Count	Metagenome Count
<input type="checkbox"/>	<a href="#">EC:1.-</a>	Oxidoreductases.	38763	13345
<input type="checkbox"/>	<a href="#">EC:1.1.-</a>	Oxidoreductases. Acting on the CH-OH group of donors.	16063	10884
<input type="checkbox"/>	<a href="#">EC:1.1.1.-</a>	Oxidoreductases. Acting on the CH-OH group of donors. With NAD(+) or NADP(+) as acceptor.	41683	13989
<input type="checkbox"/>	<a href="#">EC:1.1.1.1</a>	Alcohol dehydrogenase.	4727	14383
<input type="checkbox"/>	<a href="#">EC:1.1.1.10</a>	L-xylulose reductase.	222	3655
<input type="checkbox"/>	<a href="#">EC:1.1.1.100</a>	3-oxoacyl-[acyl-carrier-protein] reductase.	54969	14728

**(ii) ENZYME: 1.1.1.10**

Entry	EC 1.1.1.10	Enzyme
Name	L-xylulose reductase; xylitol dehydrogenase (ambiguous)	
Class	Oxidoreductases; Acting on the CH-OH group of donors; With NAD+ or NADP+ as acceptor <a href="#">BRITe hierarchy</a>	
Synname	xylitol:NADP+ 4-oxidoreductase (L-xylulose-forming)	
Reaction (IUBMB)	xylitol + NADP+ = L-xylulose + NADPH + H+ [RN:R01904]	
Reaction (KEGG)	R01904	
Substrate	xylitol [CPD:C00379]; NADP+ [CPD:C00006]	
Product	L-xylulose [CPD:C00312]; NADPH [CPD:C00005]; H+ [CPD:C00080]	
History	EC 1.1.1.10 created 1961	
Pathway	ec00040 Pentose and glucuronate int ec01100 Metabolic pathways Orthology R03331 L-xylulose reductase	

**(iii) Isolate Genomes with EC:1.1.1.10**

Domains(D): \* = Microbiome,  
B = Bacteria, A = Actineta, E = Eukarya, P = Plasmids, G = GFragment, V = Viruses.  
Genome Completion(C): F = Finished, P = Permanent Draft, D = Draft.

Select	Domain	Status	Genome	Gene Count
<input type="checkbox"/>	A	P	<a href="#">Thermoproteaceae TypeII</a>	1
<input type="checkbox"/>	A	D	<a href="#">Thermoproteales-Type-2-TT2-r02 (from CIS_19)</a>	1
<input type="checkbox"/>	B	P	<a href="#">Burkholderia pseudomallei TSVS</a>	1

**Figure 1.** Enzymes.

Users can select a subset of enzymes to be added to the Function Cart or Workspace for further analysis. Clicking on an enzyme ID will lead to the Enzyme definition page in KEGG (e.g., [http://www.genome.jp/dbget-bin/www\\_bget?EC:1.1.1.10](http://www.genome.jp/dbget-bin/www_bget?EC:1.1.1.10)).

Clicking a genome count will lead to a list of genomes with genes annotated with this enzyme (Figure 1(iii)). Genomes can be selected to be added to the Genome Cart or to the Workspace for further analysis. Clicking on the gene count to view the actual genes.