

Exercise 2:
Standardizing Data
Using Ontology Look-up
Services

How to find ontology terms



Welcome to the EMBL-EBI Ontology Lookup Service

building Search

[Looking for a particular ontology?](#)

Jump to

Building	NCIT	NCIT:C80231
building	ENVO	ENVO:00000073
building	MICRO	ENVO:00000073
building	ECTO	ENVO:00000073
building	GENEPIO	ENVO:00000073

Search OLS for **building**

Data Content

Updated 19 Jul 2022 17:26

- 277 ontologies
- 7,288,438 terms
- 39,114 properties
- 503,727 individuals

Tweets by @EBIOLS



Hey OLS Community! We are looking for your input wrt how to deal with imports into ontologies. Please feel free to give your input github.com/EBISPOT/OLS/discussions

EBISPOT/OLS

#595 How to deal with imports?

1 idea 3 comments

henrietteharman opened on May 18, 2022

How to deal with imports? - Discussion ...

As part of indexing OLS creates a node for ...

<https://www.ebi.ac.uk/ols/>

So you're shopping for ontology terms: How to evaluate term matches

Searches for terms can yield many/different kinds of results. To evaluate the matches, ask yourself the following:

- Does the match sound like **what I'm looking for**?
 - Is it a synonym, e.g. rocketship vs spaceship
- Is it being defined by an ontology that makes sense with my **use case**?
 - A disease ontology is more appropriate for disease terms vs mouse model ontology
- Does the definition **sound right**?
 - "Cell" could be room in a jail OR a basic unit of life
- Is it **specific enough? Too specific?**
 - Cough vs productive cough vs productive cough (green sputum))
- Is it **reused** in many different ontologies?

3

Hint: keep evaluating matches past the first hit

Who do you trust? Evaluating ontologies...

All ontologies are not created equal. Ontologies can be built for specific project.

Advice for choosing ontologies to use:

1. Should be under active development (updated)
2. Should accept term requests from the community and respond in a timely manner
3. Should be interoperable and adhere to best practices (e.g. OBO Foundry)
4. The more widely used the better
5. Should provide definitions and sources

Who do you trust? Evaluating ontologies...

Get advice. Chat with people. Some of our recommendations:

- UO - units
- NCBITaxon - taxonomy
- ENVO - environment (built & natural)
- OBI - assays, biological processes
- FoodOn - food
- DO - diseases
- HP - symptoms
- Uberon - anatomy
- ChEBI - chemicals/drugs
- GAZ - geography

So you're shopping for ontology terms: How to evaluate term matches

Example: farm

“Farm” is exact match!
Def sounds right

ENVO (Environment) >
NCIT=Cancer

ENVO term in multiple
ontologies

**Conclusion:
select**

Farm [ENVO:00000078]

The screenshot displays the OBO Library search results for the term "farm". At the top, a search bar contains "farm" and a "Search" button. Below the search bar, there are checkboxes for "Exact match" and "Obsolete terms". The left sidebar contains two filter sections: "Term type" and "Ontology".

Term type

Filter by type	Count
class	629
ontology	2
individual	1

Ontology

Filter by ontology	Count
GAZ	481
SNOMED	73
EOL	12
NCIT	12
CO_326	9

Search results for farm

Previous Showing 1 to 10 of 632 results Next

farm ENVO:00000078
http://purl.obolibrary.org/obo/ENVO_00000078
An area of land which is used for the cultivation of crops or grazing of livestock, including any agricultural constructions therein
Ontology: [The Environment Ontology](#) ENVO
Also in: AGRO ECTO EUPATH FOODON GENEPIO MICRO

Farm NCIT:C48953
http://purl.obolibrary.org/obo/NCIT_C48953
A tract of land cultivated for the purpose of agricultural production or devoted to the raising and breeding of domestic animals.
Ontology: [NCI Thesaurus OBO Edition](#) NCIT

Lochhead Farm Wind Farm GAZ:00582513
http://purl.obolibrary.org/obo/GAZ_00582513
A wind farm.
Ontology: GAZ

So you're shopping for ontology terms: How to evaluate term matches

Example: food production environment

No exact matches

Try a synonym

food production environment

Jump to

production environment

controlled environment agriculture (CEA) production

agricultural production environment

GENEPIO

FOODON

GENEPIO

FOODON:03530206

FOODON:00003390

FOODON:03530152

Search OLS for food production environment

So you're shopping for ontology terms: How to evaluate term matches

Example: food production environment

No exact matches for
“food factory”

Re-examine
“production
environment” matches

☐ Exact match ☐ Obsolete terms

Term type

Filter by type

class	11921
property	49
individual	16
ontology	5

Ontology

Filter by ontology

FOODON	4521
ONS	2873
SNOMED	1351

Search results for food factory

Showing 1 to 10 of 11991 results

factory **ENVO:01000536**

http://purl.obolibrary.org/obo/ENVO_01000536

A factory (previously manufactory) or manufacturing plant is an industrial site, usually consisting of buildings and machinery, or more commonly a complex having several buildings, where workers manufacture goods or operate machines processing one product into another.

Ontology: [The Environment Ontology](#) **ENVO**

Also in: **ECTO** **MICRO** **RBO**

Food Ontology **FOODON**

<http://purl.obolibrary.org/obo/foodon.owl>

FoodOn (<http://foodon.org>) is a consortium-driven project to build a comprehensive and easily accessible global farm-to-fork ontology about food, that accurately and consistently describes foods commonly known in cultures from around the world.

So you're shopping for ontology terms: How to evaluate term matches

Example: food production environment

“Preparation establishment” is close, but not quite right

Conclusion:
Need new term
Make new term request

production environment

http://purl.obolibrary.org/obo/FOODON_03530206 [Copy](#)

Search GENEPIO [Search](#)

Tree view [Term mappings](#)

Graph view
Reset tree
Show all siblings

- entity
 - continuant
 - generically dependent continuant
 - information content entity
 - adjunct characteristics of food
 - production environment**
 - agricultural production environment
 - growing condition
 - organic production
 - preparation establishment
 - commissary prepared
 - food industry prepared
 - home prepared
 - restaurant or fast food prepared
 - street vendor prepared and/or sold

Term information

database cross reference

- [null:http://www.langua1.org/langua1_thesaurus.asp?termid=Z0206](http://www.langua1.org/langua1_thesaurus.asp?termid=Z0206)

imported from

- <http://purl.obolibrary.org/obo/foodon.owl>

Term relations

Subclass of:

- [adjunct characteristics of food](#)

Ontologies are living lexicons → need to reflect community needs

Standardization Exercise

Navigate to: <https://www.ebi.ac.uk/ols/index>

Try searching:

1. Province/state you are from
2. Your favourite food
3. A thing you can see from your window
4. “Cordyceps” from The Last of Us

Record terms on paper/text editor in format:

Label [ontology:ID]

e.g. pizza [FOODON:00003928]