**Map ontology template**

This document is intended as a template for planning a disease map project. It can be adjusted to a specific case depending on the topic, project objectives and input from domain experts. The overall purpose of this document is to help to start map development by focusing on priority pathways and by quickly organising initial information. It can be maintained throughout the project or discontinued as soon as more advanced management tools are used, for example, a map in MINERVA with a possibility of exporting all molecules and interactions, analytical tools, Neo4j graph database for advanced access and management, etc.

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# Disease identifiers

Disease identifiers can be searched via the Disease Ontology (https://disease-ontology.org). For example, for asthma: DOID:2841, EFO:0000270, [GARD:10246](https://rarediseases.info.nih.gov/diseases/10246/index), [ICD10CM:J45](http://www.icd10data.com/Search.aspx?search=J45), [ICD9CM:493](http://icd9cm.chrisendres.com/index.php?action=search&srchtext=493), KEGG:05310, [MESH:D001249](https://meshb.nlm.nih.gov/record/ui?ui=D001249), [NCI:C28397](https://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&ns=ncit&code=C28397), [OMIM:600807](http://www.omim.org/entry/600807), [UMLS\_CUI:C0004096](https://uts.nlm.nih.gov/uts/umls/concept/C0004096). For allergic asthma as a subtype of asthma: DOID:9415, [ICD10CM:J45](http://www.icd10data.com/Search.aspx?search=J45), [ICD9CM:493.0](http://icd9cm.chrisendres.com/index.php?action=search&srchtext=493.0), [UMLS\_CUI:C0155877](https://uts.nlm.nih.gov/uts/umls/concept/C0155877).

# Related diseases

Working with disease identifiers might help to determine the focus of the map, explore related diseases and comorbidities. For example, for asthma, related diseases are chronic obstructive pulmonary disease (COPD) and obesity, and also the diseases of the “atopic march” - progression from atopic dermatitis to allergic rhinitis and asthma. Parasite infections can be studied in connection to asthma to understand the role of Immunoglobulin E (IgE) in asthma. Knowing the topic in perspective can lead to interesting hypotheses and collaborative projects.

# Suggested search terms

List of initial search terms suggested by the experts or identified after reading key review papers.

# Tissues and cell types involved

Gradually build a list of tissues and cell types involved in disease mechanisms with the corresponding collection of evidence in publications.

# Pathways involved

At initial stages it is important to identify priority pathways to start developing the first version of the map while more information is collected and the design of the map is determined.

# Molecules involved

Molecules involved can be found and prioritised according to the literature. Also, databases such as Open Targets Platform (https://platform.opentargets.org). For example, for allergic asthma: https://platform.opentargets.org/disease/MONDO\_0004784/associations.

# Disease mechanisms: major modules/hallmarks to include

Text

# Causes/aetiology

Text

# Outcomes

Text

# Treatment

Relevant treatment is to be llisted, especially medications that are routinely prescribed, continuously used by patients and therefore are likely to affect disease mechanisms.

# Recovery mechanisms

Text