

Displaying Drug Classes in RxNav

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Motivation

Drug classes are not in the scope of RxNorm, but they constitute important information about the drugs. We added this information in RxNav¹ to complement the RxNorm information.

Background

MeSH provides a rich description of pharmacological actions (PA) for the active moieties listed as descriptors or supplementary concepts.

ATC is a resource developed for pharmacoepidemiology purposes, which provides a rich classification system for active moieties.

Linking RxNorm drugs to classes

For MeSH, we extracted the PA relations from the MeSH data set and integrated them with RxNorm, in which the MeSH ingredients are already contained. There are 2,533 RxNorm ingredients with a PA relation.

For ATC, we created a mapping at the ingredient level between ATC 5th-level drugs and RxNorm. There are 2,441 RxNorm (salt or non-salt) ingredients (IN/PIN) with a mapping to ATC.

Class View tab in RxNav

For MeSH, we display a graph of the PA(s) directly associated with a given ingredient, as well as their ancestors.

For ATC, we display the relations between a given ingredient and the ATC 5th-level code(s) it maps to, as well as their ancestors from levels 4 to 1.

Limitations

Currently, our mapping to ATC does not take into account the route of administration of the drug and simply links ingredients to all forms of the corresponding drug in ATC, often leading to multiple ATC classes.

Conclusions

Drug classes have long been a missing piece of information in RxNav. With the "Class View" tab, we now provide a link to drug classes from two external resources at the ingredient level.

MeSH Pharmacologic Actions - atorvastatin

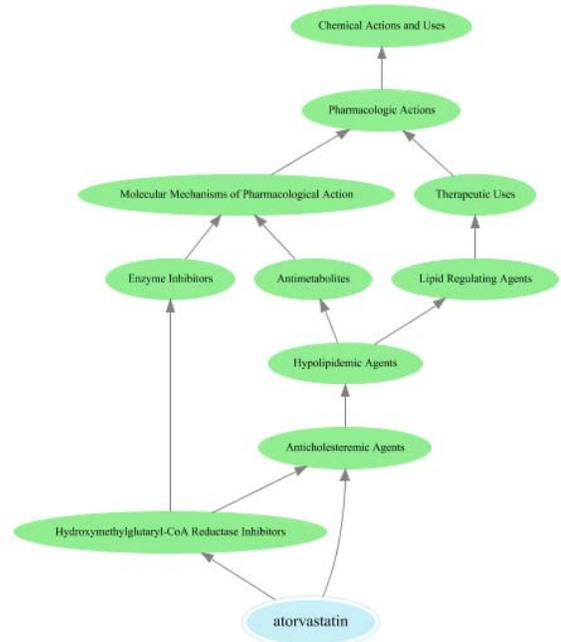


Figure 1. Graph of MeSH pharmacologic actions for atorvastatin from the RxNav Class View tab

ATC Classes - atorvastatin

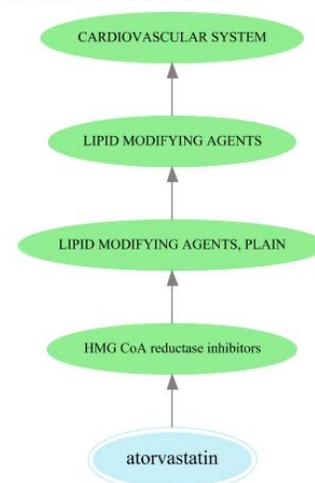


Figure 2. Graph of ATC drug classes for atorvastatin from the RxNav Class View tab

¹ <http://rxnav.nlm.nih.gov>