MASTERMIND®

Use Case Scenario: Advanced Search Capabilities of Mastermind

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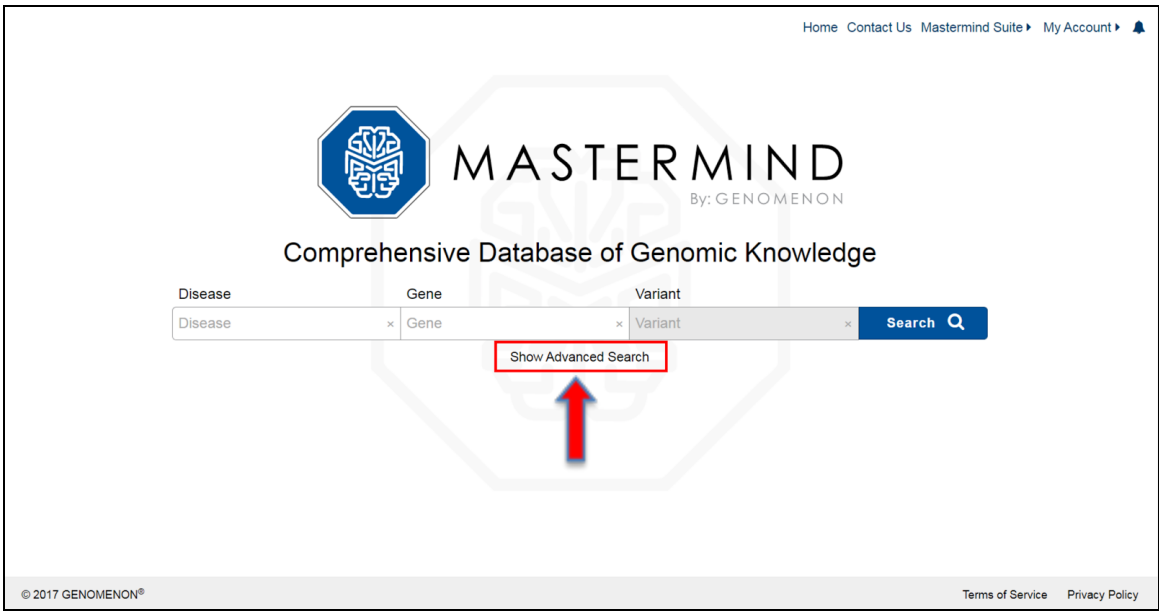
Advanced Search capabilities of Mastermind

Mastermind includes advanced search capabilities and which can be used to quickly refine your search results using your own custom keywords. It is also an especially powerful utility to find articles of interest when the expected search terms do not explicitly appear in the abstract and/or title or a described using different terminologies.

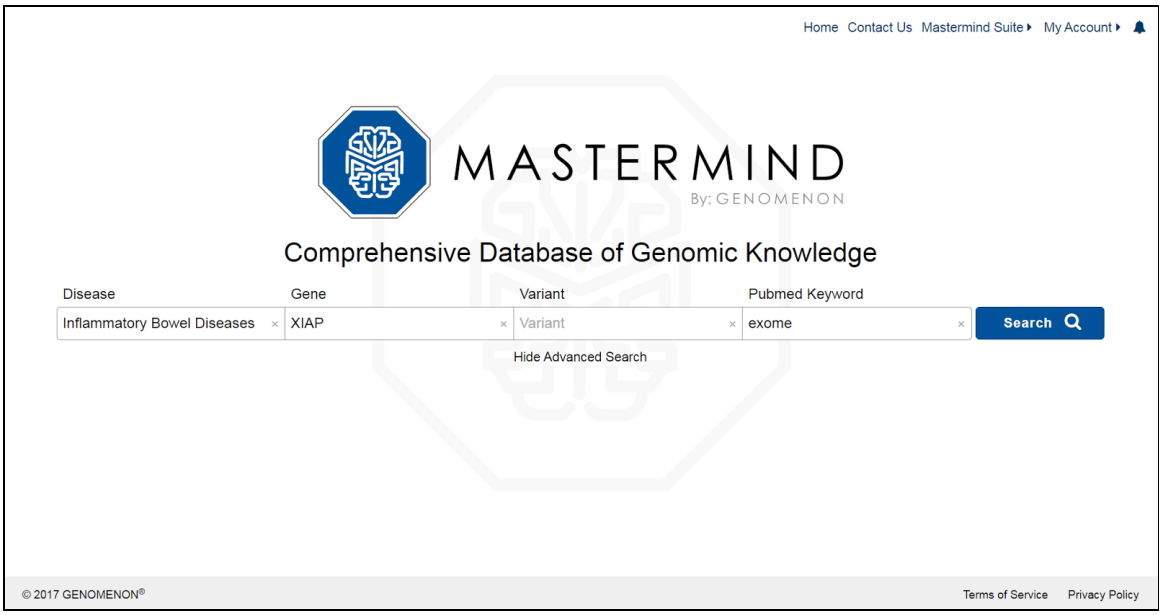
To activate the advanced search features, click on "Show Advanced Search" on the Mastermind home page.



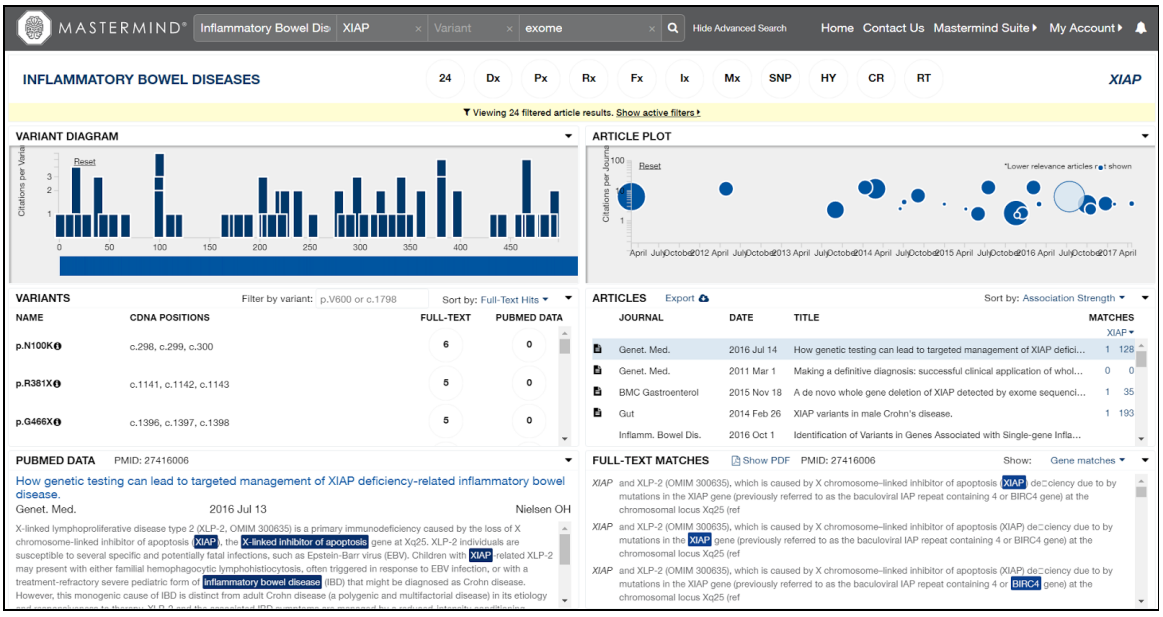
The advanced search capabilities (PubMed Keyword field) are invoked when entering either a 1) Disease term, 2) Gene term or 3) Gene-Mutation keywords.

To illustrate the advanced search capabilities of Mastermind, we will search for all publications that have used exome sequencing to identify variants in the *XIAP* gene and their role in the development of inflammatory bowel disease.

To begin, enter the search term "inflammatory bowel diseases", "XIAP" and "exome" in the Disease, Gene and PubMed Keyword text boxes, respectively. Click "Search".

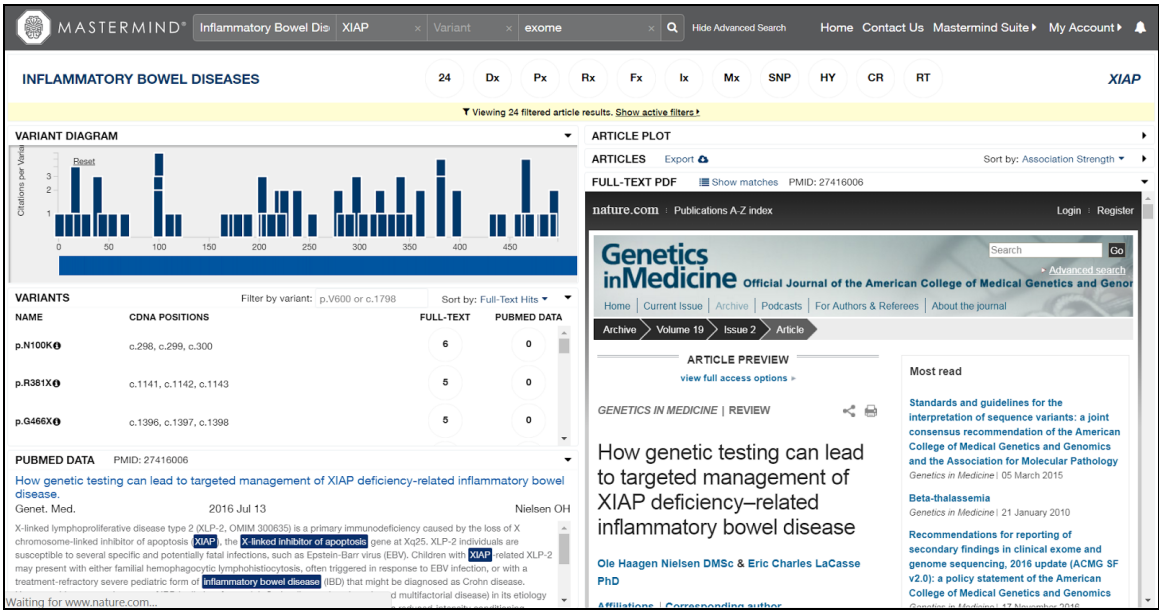


This search leaps directly to a detail page with only 24 articles that satisfy the search criteria.



The first article, "How genetic testing can lead to targeted management of XIAP defici..." (Genet. Med) appears at the top of the list of publications, which are sorted by default into association strength. You can also tell by the size of bubble in "Article Plot" that it has the highest association strength with your keywords. The "Variant Diagram" panel highlights those variants which have been reported in these publications, and which have been mapped along the length of the protein.

To see the PDF of this article, click on the "Show PDF" button in "Full-Text Matches" panel, the lowest-right panel in the detail page. If the paper is freely available online, or if your institute has an online subscription the journal, the PDF will automatically load in the viewer.



You may notice that the both search term "XIAP" and the full gene name of "X-linked inhibitor of apoptosis" is are highlighted in the abstract: Mastermind is capable of capturing all synonyms of any gene in our listings.

In the "Variants" panel, you will see all of the reported variants that have been described in the 24 publications. The variants can be sorted by their location in the article (Title/Abstract or Full-text) or their position along the linear axis of the protein. The quick search feature of "Filter by variant" will allow you to quickly find any variant in the list using standard variant syntax.

In summary, the Advanced Features of Mastermind can be used to 1) quickly filter publication by keyword and 2) find publications where non-standard terminologies may be have been used by the corresponding author of the publication.

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We are pleased that you are interested in our software and we look forward to learning from your experience.

If any questions arise, please do not hesitate to contact us.

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