

Get reliable answers to biological and chemical questions.

Overview

Ingenuity Answers is an advanced search tool that enables you to quickly and reliably answer specific biological questions by leveraging the Ingenuity Knowledge Base. With Ingenuity Answers, you can easily identify lists of genes or other biological and chemical objects that satisfy particular biological criteria you are interested in. Ingenuity Answers allows you to ask highly focused questions involving biological details across multiple levels (such as genes, chemicals, cells, domains, pathways, diseases, and more) and provides answers based on demonstrated and accurate biological relationships, so you have confidence in your search results.



Find genes that are associated with diseases: COPD

Find that

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Simple, sentence-style construction enables biologists to easily answer both broad and complex questions

Highlights

Trusted: Leverage the Ingenuity Knowledge Base for relevant and accurate information

Ingenuity Answers leverages the Ingenuity Knowledge Base, so the answers are relevant and reliable. Unlike other knowledge bases, the Ingenuity Knowledge Base consists of demonstrated biological relationships, or findings, rather than just documents or predicted annotation. These relationships are manually curated by PhD scientists from the full text of peer-reviewed articles, including figures and tables. Ingenuity Answers allows you to link directly to the supporting literature finding in the Ingenuity Knowledge Base and access a wealth of related information, such as experimental method, date, author, and more. Additionally, through the Ingenuity Knowledge Base, you have access to the findings of third party databases such as GO, EntrezGene, BIND, DIP, ClinicalTrials.gov, OMIM, TarBase, HMDB, and many more. Unlike other databases, the Ingenuity Knowledge Base captures a wealth of detailed contextual information so you can get answers to highly specific questions involving detailed biological context (such as mutation details, sites of post-translational modification, expression in particular tissue/cell types, experimental method, and more), and integrate multiple levels of biology in a single tool (genes, molecules, cellular processes, disease processes, etc.).

Flexible: Ask your questions your way

Your research questions change as you progress through the experimental lifecycle: sometimes you need broad answers to explore a range of possibilities, and sometimes you need to drill down and get a refined, specific set of answers. Ingenuity Answers allows you to answer your questions by supporting both broad and narrow questions, and by allowing you to easily add follow up questions and filter your results. Ingenuity Answers also fits into multiple workflows – lists can easily be imported into Ingenuity Answers, or you can export your results from Ingenuity Answers into IPA, Spotfire, and other tools for further exploration.

Easy: Put in a search term and rapidly get a result

Ingenuity Answers was designed to allow you to easily ask detailed biological questions without needing to understand complicated queries or database structures. Its simple, sentence-style construction makes asking complex questions as easy as filling in the blanks – or you can simply access its library of pre-formulated questions. With Ingenuity Answers, you can get your answers quickly, easily, and reliably, and then move on to other tasks.

Types of Questions You Can Ask

Ingenuity Answers lets researchers ask broad or detailed questions that leverage the tremendous amount of contextual information captured in the Ingenuity Knowledge Base. For example, you can ask for specific information about a gene such as mutation details, sites of post-translational modification, whether it contains a particular domain, if it is expressed in a certain tissue or cell line, and whether it is associated with a particular disease or phenotype, and more.

You can ask questions like:

- What genes are expressed in A549 cells?
- What pathogens affect activation of MAP3K?
- What are the molecular functions of Notch proteins?
- What cells secrete insulin gene products?
- What gene mutations have been associated with asthma?
- What are the known Alzheimer's disease biomarker genes?
- What genes, RNAs, or proteins are biomarkers of neurological disorders?
- What kinases bind SH2 domain-containing proteins?
- What cells express cytokines that activate monocytes or macrophages?
- What chemicals inhibit transcription factors present in the Filoviral-mediated cytokine production pathway?

You can also add valuable annotation to your own lists of genes deriving from proprietary investigations such as GWA studies, biomarker development efforts, or target identification:

- Which of my genes of interest are known to be associated with a disease or phenotype?
- Which of my genes of interest have had their gene products detected in cerebrospinal fluid, blood, or saliva?
- Which genes encode secreted proteins?
- Which genes encode proteins that are tyrosine kinases?
- Which genes are expressed in macrophages but NOT red blood cells?
- Which chemicals bind to my list of genes that affect cell death? Are any of these chemicals in clinical trials?

Ingenuity Answers and IPA

Ingenuity Answers is designed to ask specific and complex questions of the Ingenuity Knowledge Base and rapidly return a list of genes, chemicals, or other biological things that meet a certain biological criteria. Ingenuity Answers also excels at informing users about the properties a particular gene or an imported list of genes might have. IPA is designed to support the analysis, visualization, and exploration of data generated from mammalian systems, and output that information in the form of pathways and functional associations. Ingenuity Answers results can be sent directly to IPA for visualization, analysis, or further exploration. Ingenuity Answers can be used to layer additional decision-enabling information onto an imported list of genes or chemicals from IPA that derive from proprietary investigations such as GWA studies, biomarker development efforts, or target identification.

Technical Requirements

Ingenuity Answers is a web-based application, meaning there is no software to download or install. Ingenuity Answers is currently supported on the following operating systems and browsers: Windows XP or Vista operating system and Firefox 3, Internet Explorer 6, or Internet Explorer 7 browser versions; and Macintosh operating system with Safari 4.

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