# Introducing

# Pharma KnowledgeBase

**The Pharmaceutical Knowledgebase**

from Collaborative Drug Discovery, Inc.

pharmakb.com

info@pharmakb.com

# Pharma KnowledgeBase

## Overview

PharmaKB provides daily data to make informed decisions about the values and risks associated with pharmaceutical companies based on the performance of their commercial and developing drug programs.

**Data includes:**

• Tickers • Revenues per Drug • Stage of Development • Probability of Trial Success • Length of Clinical Trials • Competitive Companies and Drugs by Disease Market and Target • Patent Cliffs • Exclusivity Periods • Disease Population Size • Drug Prescribing & Pricing • Research Publication Trends • Safety Signals • and Many Other Factors.

With PharmaKB,

- Analyze 1700+ pharma companies (600+ mapped to tickers) with 450+ ranging from 100M to 400B market cap.
- Evaluate investment options with access to daily pharmaceutical trends, including financials, R&D milestones, and competitive intelligence.
- Track market changes and get alerted to shifts in the competitive landscape, such as new drug entries into disease areas, patents, trials, revenues.
- Sharpen stock and revenue prediction confidence via quantitative data and time series methods, including competitive drugs, patent cliffs, trials, publications, and adverse events, trial success probabilities, epidemiological data, and more.

Pharma KnowledgeBase

# Alternative Pharmaceutical Data to **Track Milestones & Performance Metrics**

## Companies
**1700+**
**(~600 tickers)**

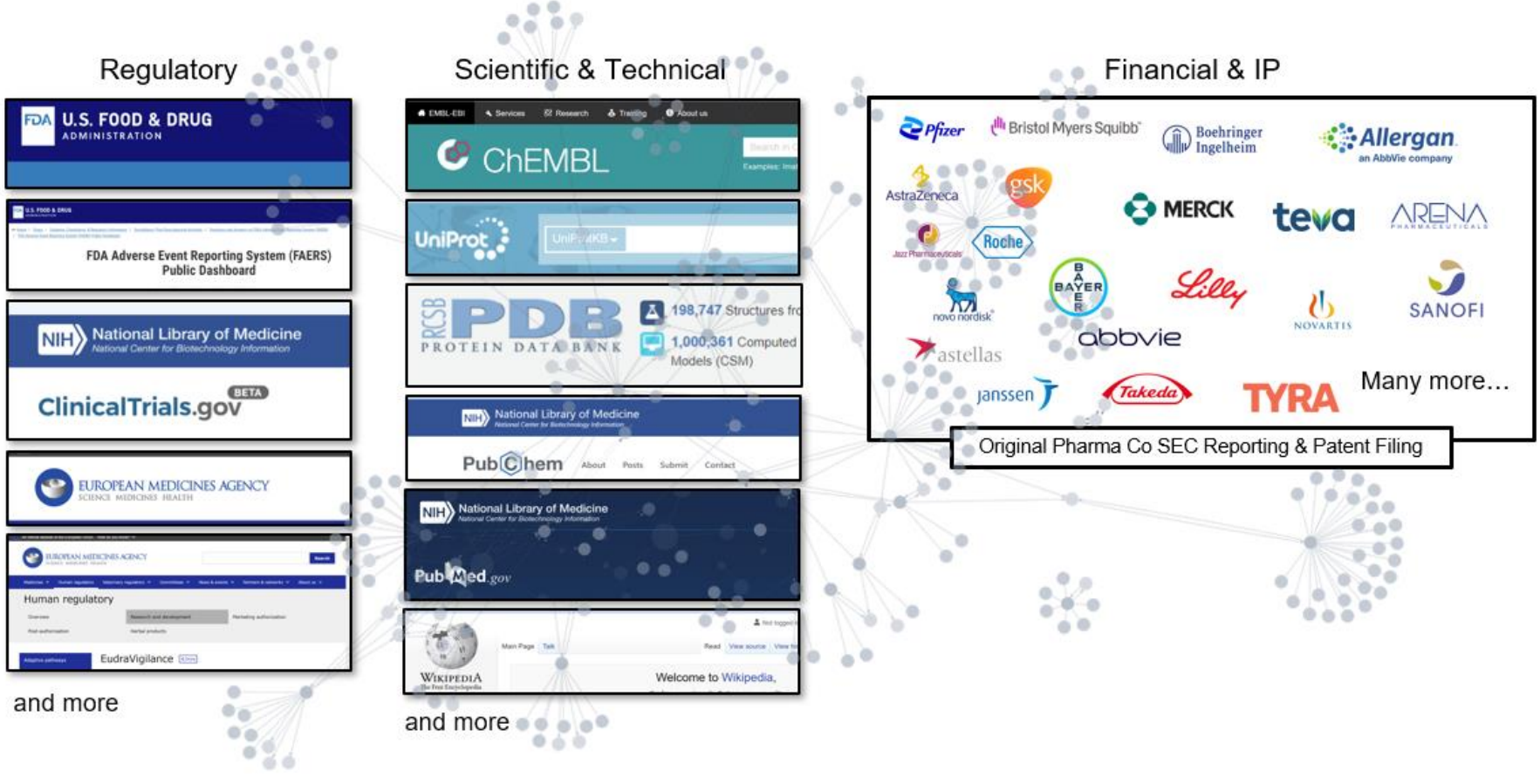
(~500 ranging from 100M to 400B Market Cap)

## Diseases
**1300+**
**(Competitive Markets)**

## Drugs
**9770+**
**(Products)**

# Pharma KnowledgeBase

**PharmaKB** collects and curates information from 100's of sources **Updated Daily!**



Pharma KnowledgeBase

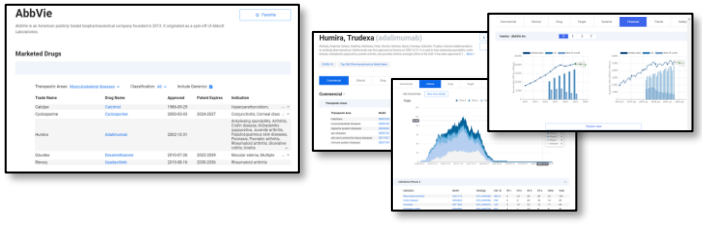
# Access Content via 3 Methods

## Web Application

(Dashboards & File Downloads)

### Company View

### Drug View




### Disease View (competitive landscape)

## API Access

(All Data)

### GraphiQL

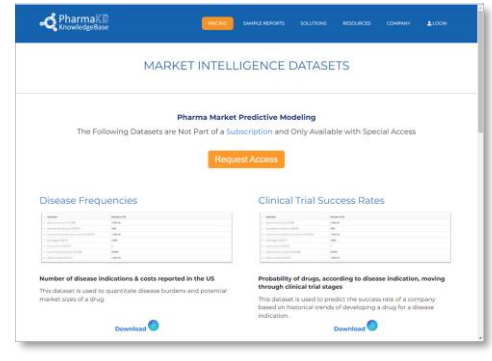
Open for Innovation KNIME

## Custom Data Portal

(PharmaKB+)

### Market Intelligence & Modeling Datasets

(Github or S3)



Pharma KnowledgeBase

## Web Application

(Dashboards & File Downloads)

**PharmaKB** web content is available through easy to interpret and integrated views:

### Drug View

**Drug Name**

- Commercial
- Clinical
- Drug Entity
- Target
- Financial
- Trends
- Safety

### Company View

**Company**

- Drug Portfolio
- Active Trials
- Patents
- Revenue

### Disease View

**Disease**

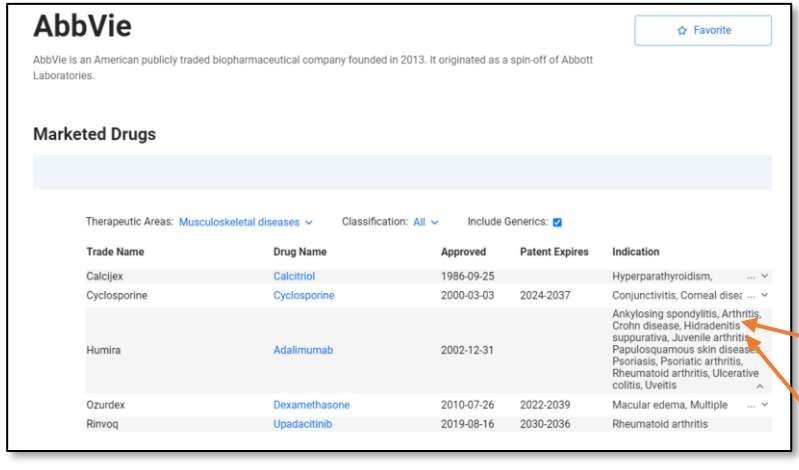
- Name(s)
- Disease
- Target
- Relationships

# Pharma KnowledgeBase

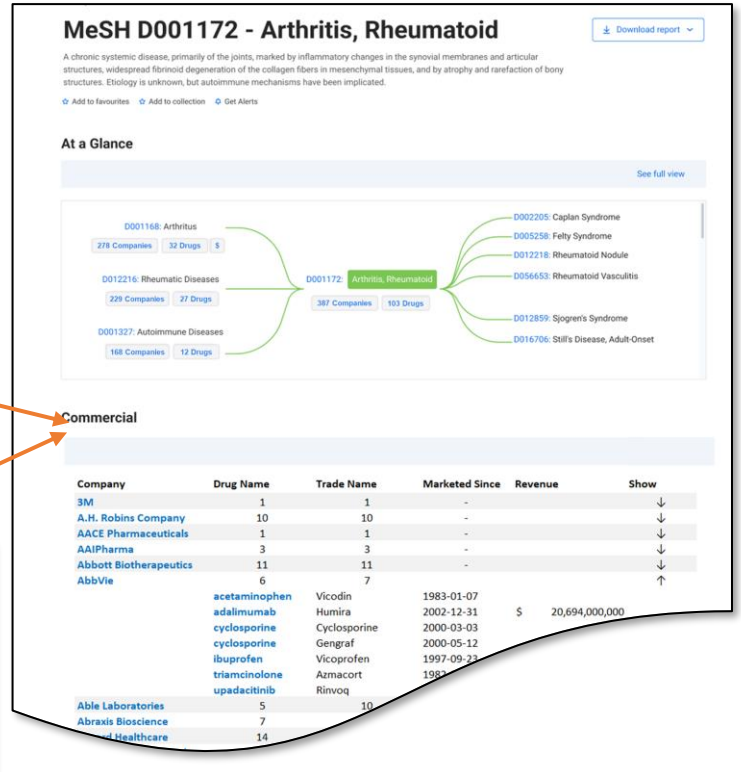
## Web Application

(Dashboards & File Downloads)

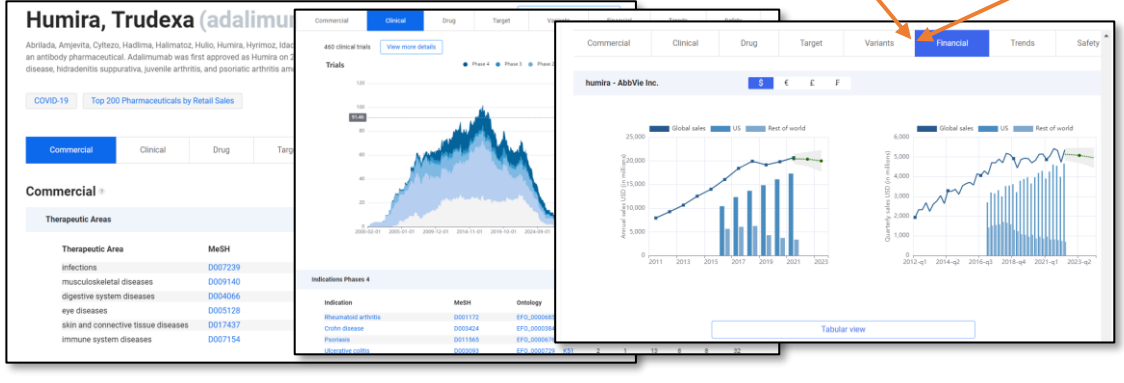
### **Company View:** Review Portfolios




### **Disease View:** Search by Competitors




### **Drug View:** Detailed Product Profiles




**Easily Navigate**

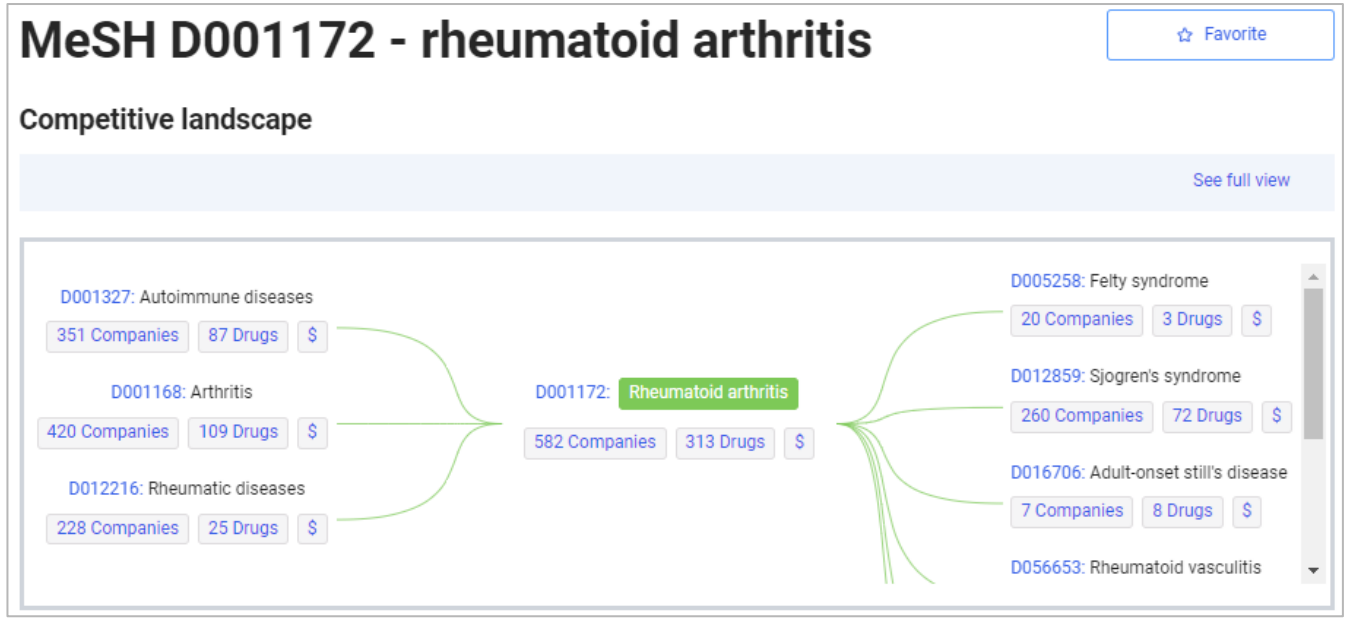
Pharma KnowledgeBase

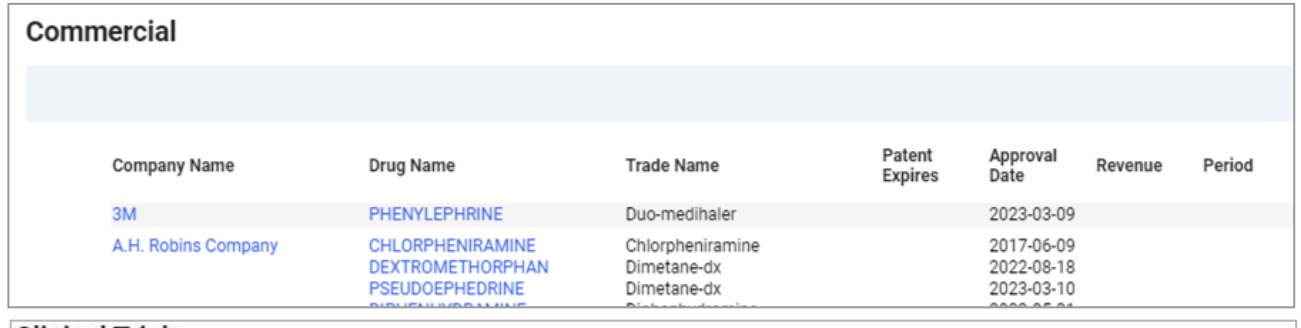
# Web Application

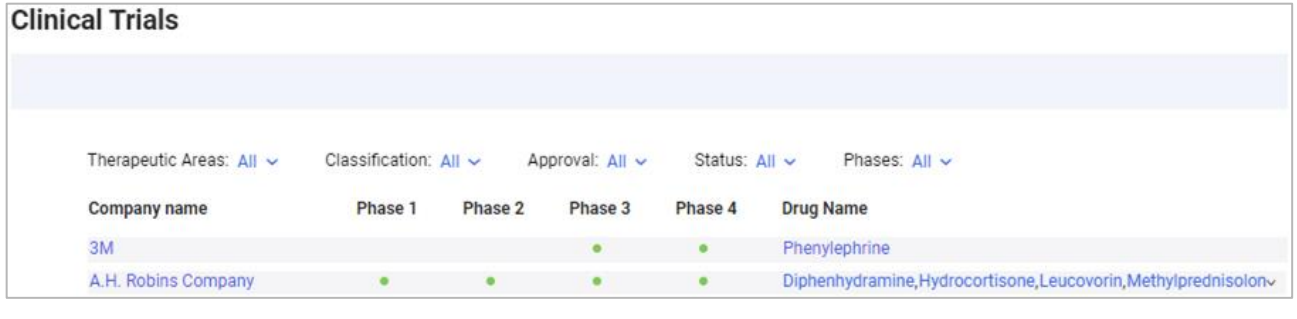
**(Dashboards & File Downloads)**

**Disease View:**

Browse the competitive landscape for companies with commercial or trial drugs that target the same disease markets




**See Live Preview...**

https://www.pharmakb.com/sample-data#disease-report

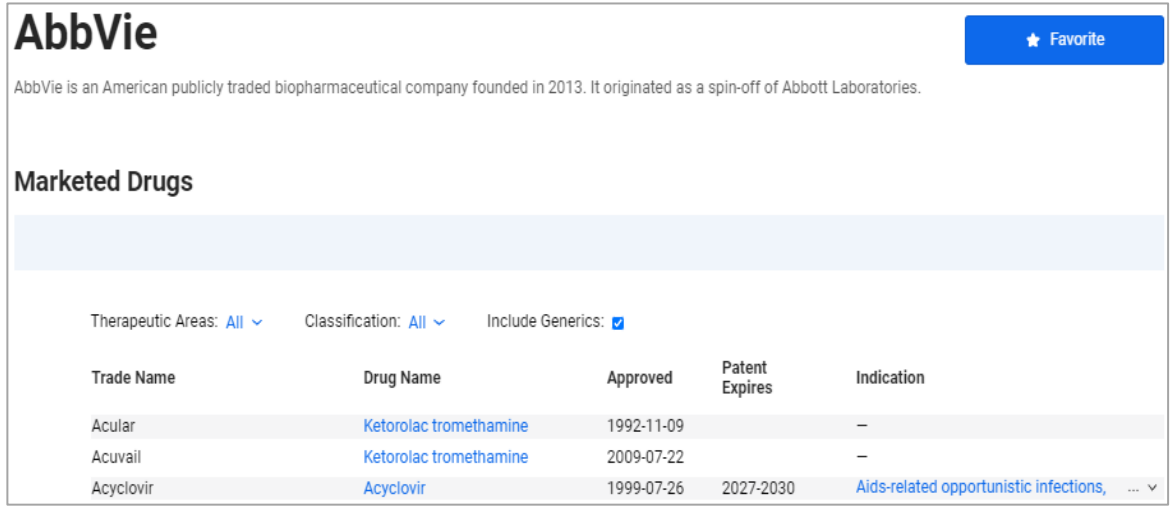
# Pharma KnowledgeBase

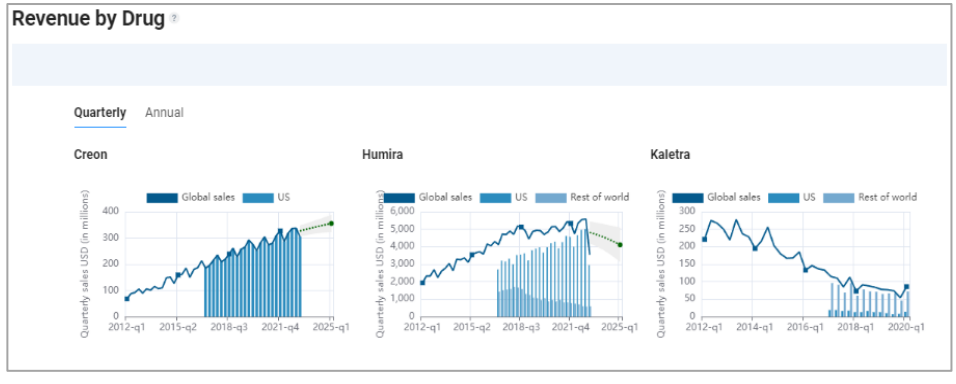
## Web Application

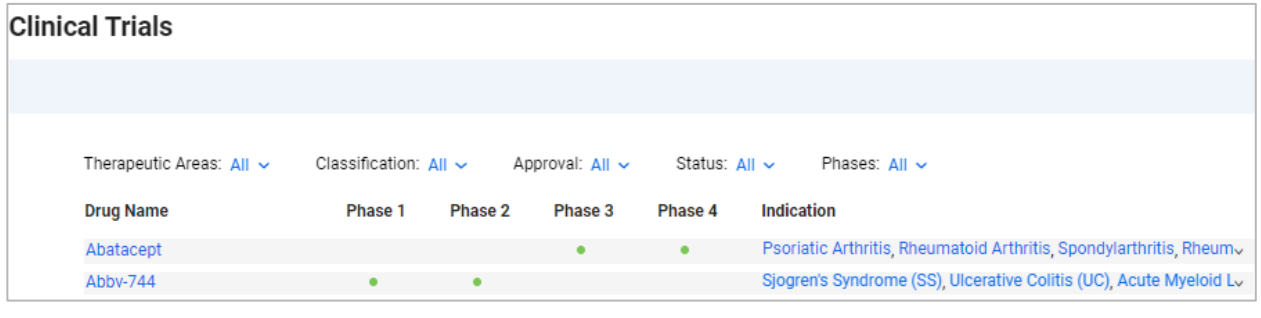
**(Dashboards & File Downloads)**

**Company View:**

Browse individual drug revenues for companies and track historical and developing drugs through clinical trials.




**See Live Preview...**

https://www.pharmakb.com/sample-data#company-report

# Pharma KnowledgeBase

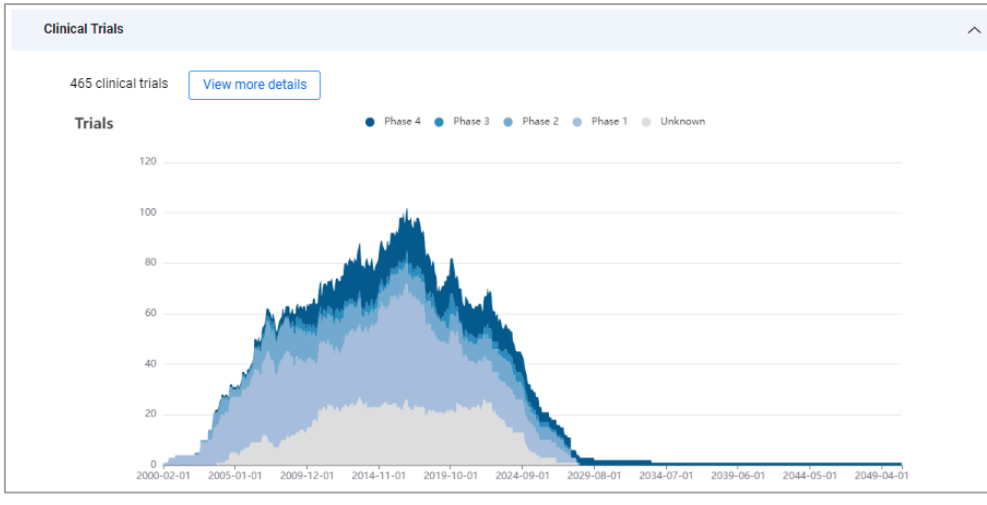
## Web Application

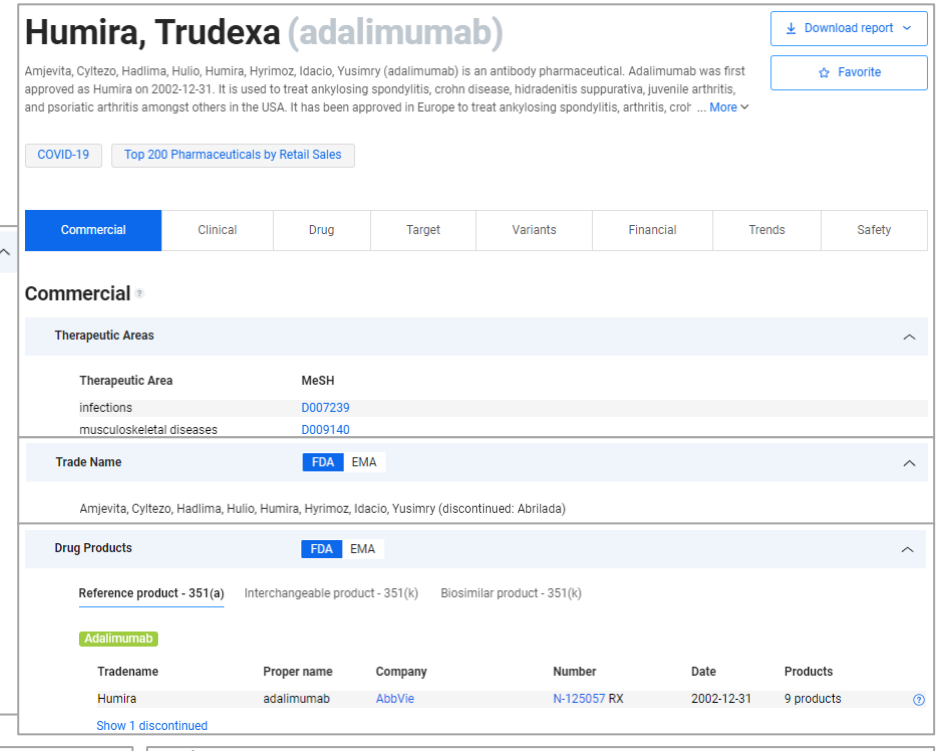
**(Dashboards & File Downloads)**

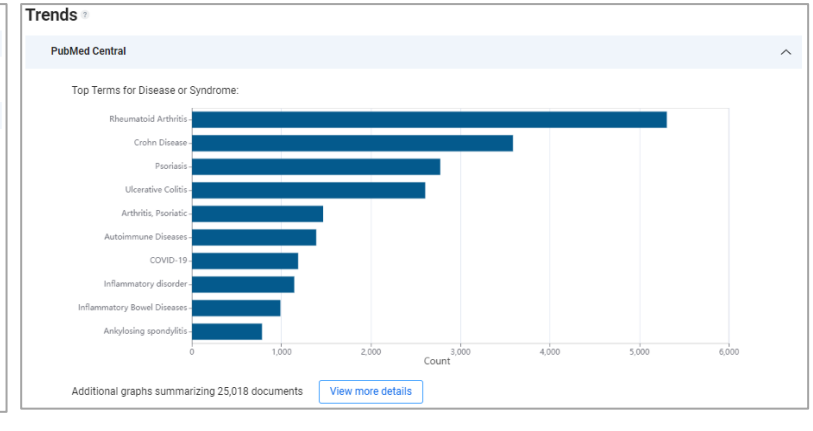
[See Live Preview...](https://www.pharmakb.com/sample-data#drug-report) https://www.pharmakb.com/sample-data#drug-report

### Drug View:

Browse drug profiles by their commercial, clinical, financial, safety, research publication, and target data.



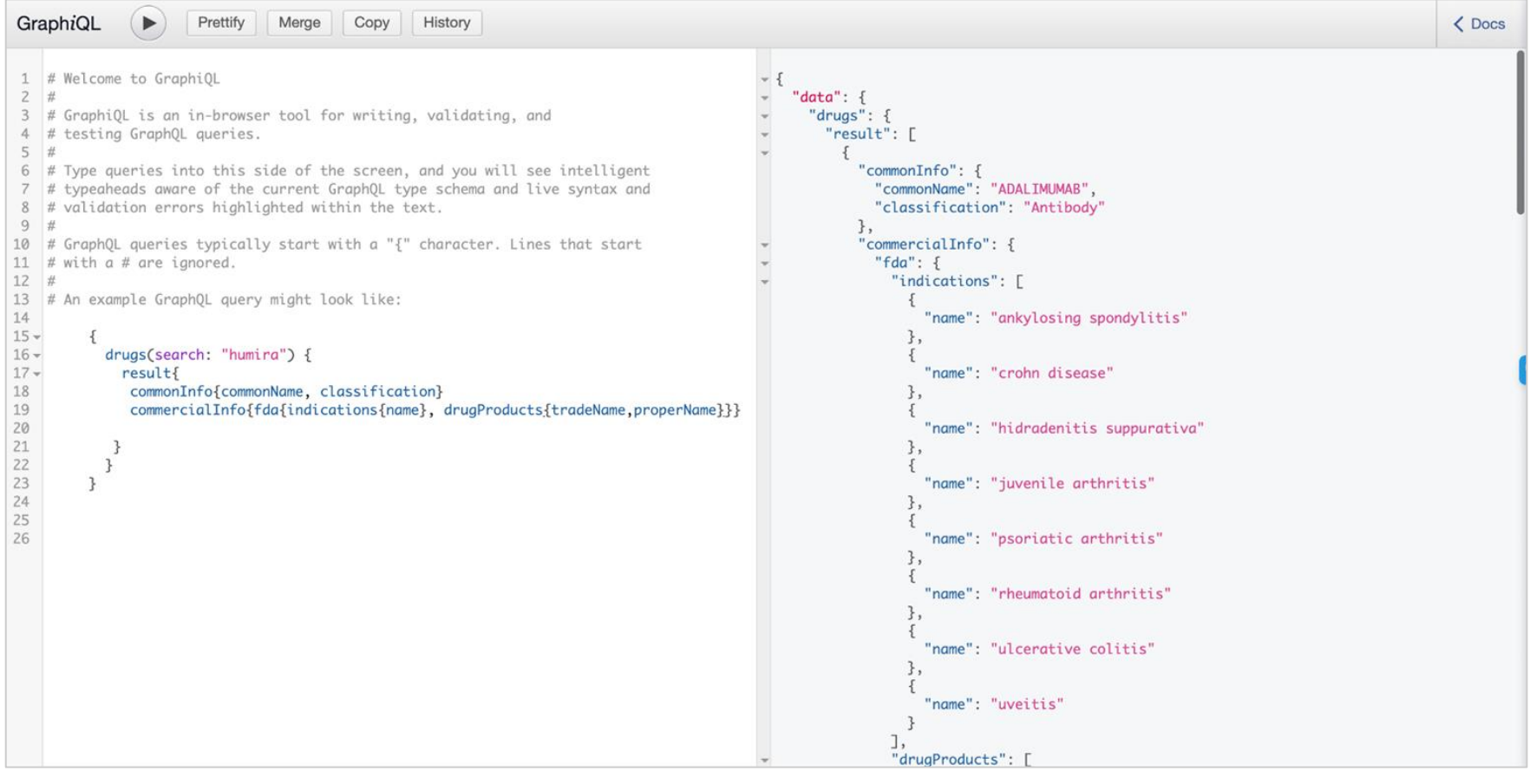


# API Access

(All Data)

PharmaKB content is built on a **GraphQL database** which is programmatically accessible via **GraphQL API** in addition to the the Application's JSON/CSV/EXCEL/PPT downloads.

Browse PharmaKB API Documentation. https://www.pharmakb.com/api-documentation



# Pharma KnowledgeBase

## Custom Data Portal

(PharmaKB+)

Accessible on GitHub or S3

# Find Alpha Signals!

## Market Intelligence & Modeling Datasets

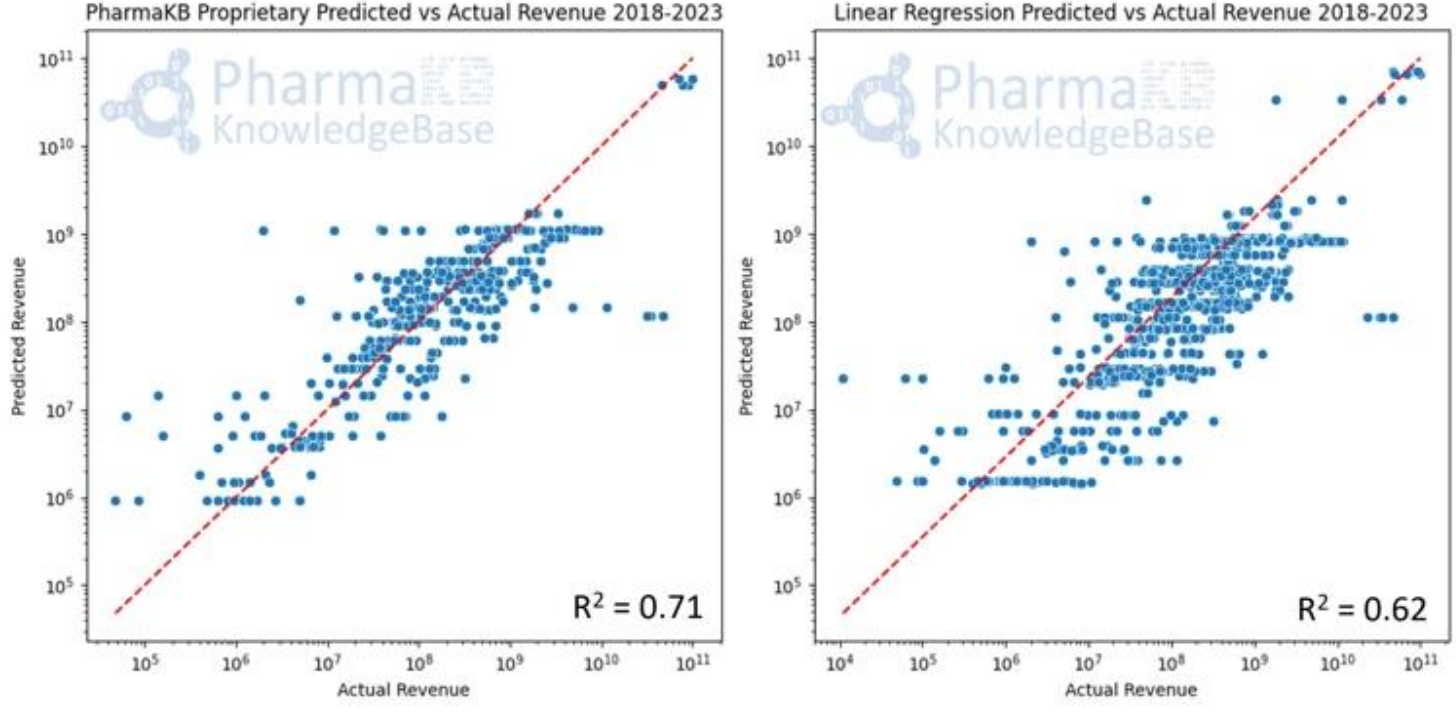
- **Medical Expenditure Panel Survey Data**
  US household market spent by drug
- **Clinical Trial Success Rate Analysis & Data**
  Likelihood of drug program advancement by disease.
- **Curated Drug Revenues**
  320 Drugs from 24 publicly reporting companies (curated)
- **Competitive Company and Drug by Indication Time Series Data**
  Profiles disease market participation over time
- **Drugs / Active Ingredients Synonyms and International Nonproprietary Names (INNs)**
  Mapping drug names across multiple sources.
- **Pharmaceutical Market Company Names Ontology**
  Mapping companies across multiple business entities.
- **Epidemiology Information (Disease population size & impact)**
  Estimating & comparing market size by disease.
- **Drug Patents and Approval Event Files**
  Detailed event data for approvals, exclusivity, and patents

# PharmaKB Alpha Signals

Gain an investment edge.

## Signal #1 - Improved Drug Revenue Prediction

PharmaKB data is used to build an improved model (left panel) for predicting drug revenues.*




* Results are based on retrospective data and may vary in any future trades.

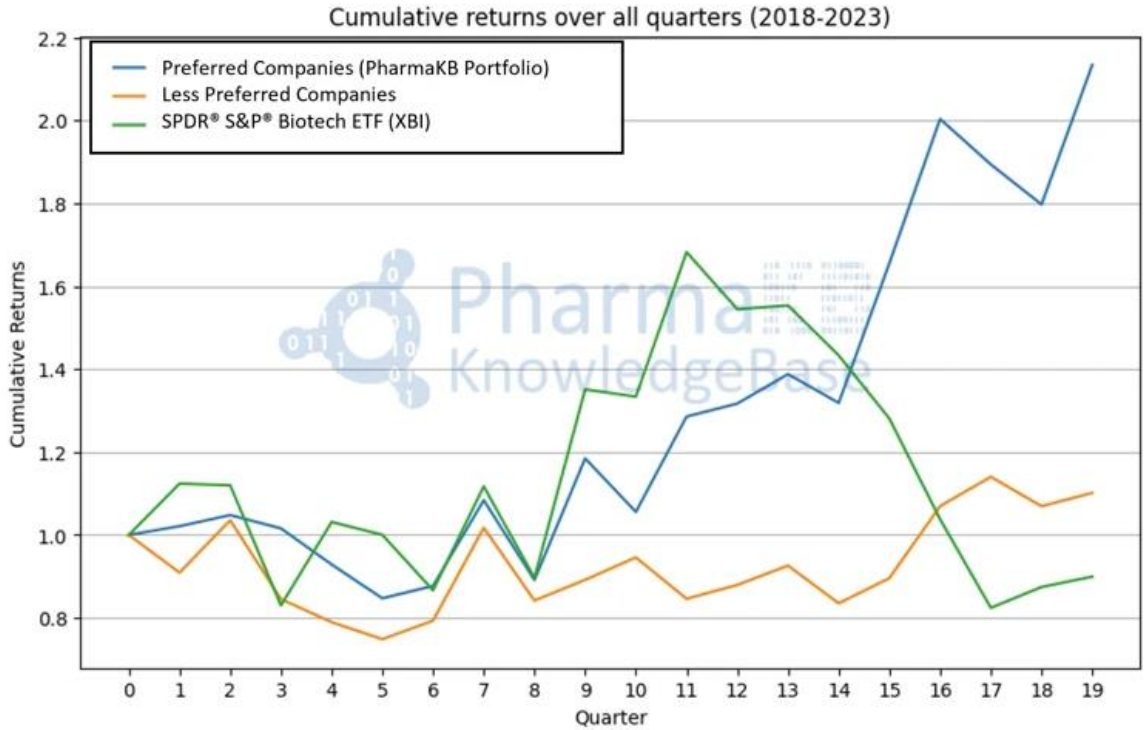
Pharma KnowledgeBase

# PharmaKB Alpha Signals

Gain an investment edge.

## Signal #2 - Portfolio Building with Alternative Drug Data

Alternative drug data provides a signal to build a biotech portfolio
with higher performing cumulative revenues
than less preferred companies and a Biotech ETF (XBI).*




* Results are based on retrospective data and may vary in any future trades.

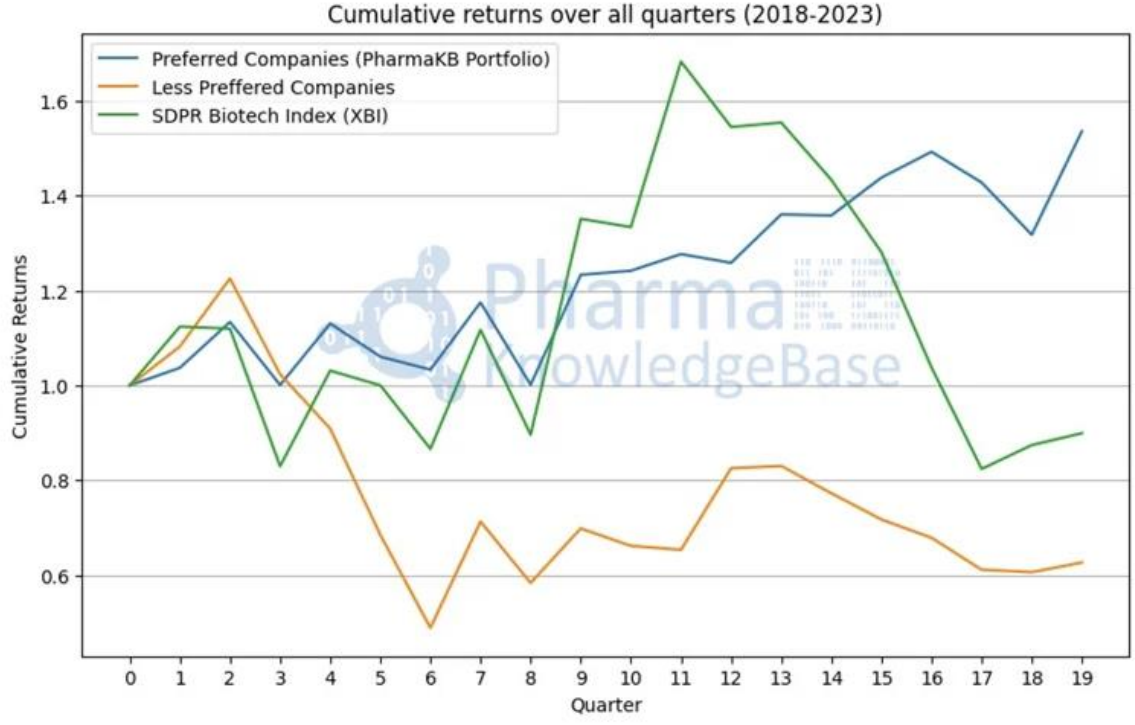
Pharma KnowledgeBase

# PharmaKB Alpha Signals

Gain an investment edge.

## Signal #3 - Portfolio Building with Alternative Drug Data

Alternative drug data provides a signal to build a biotech portfolio
with higher performing cumulative revenues
than less preferred companies and a Biotech ETF (XBI).*



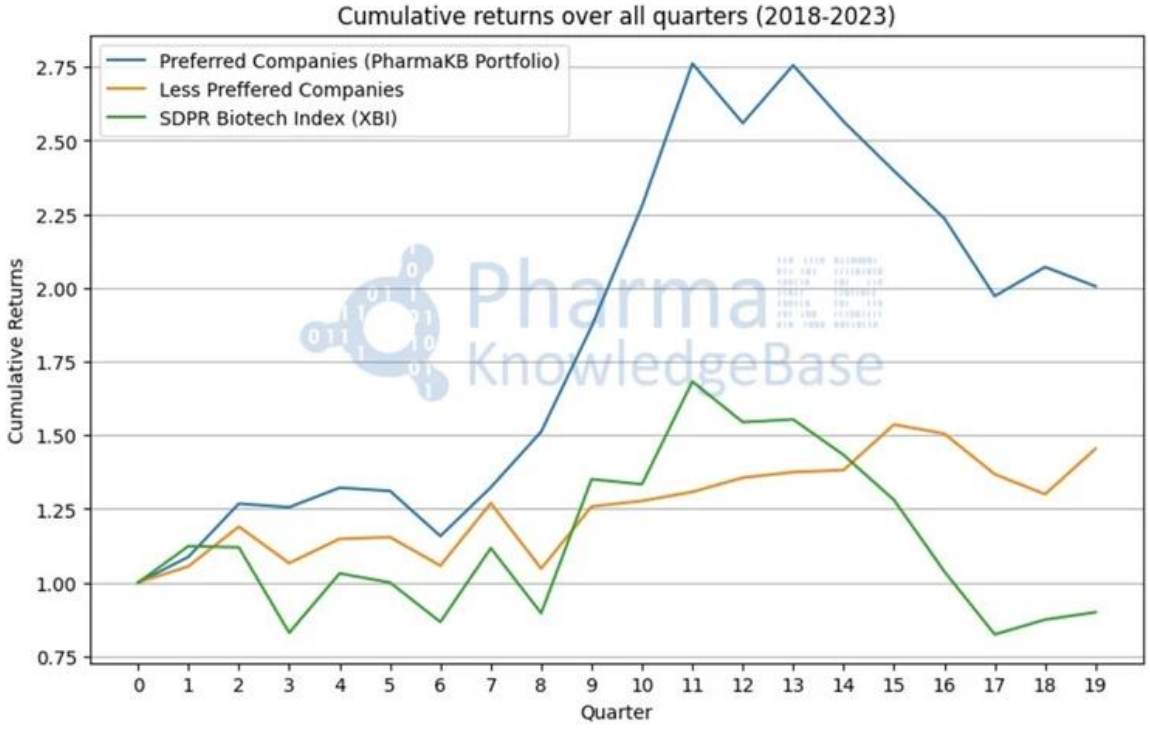

* Results are based on retrospective data and may vary in any future trades.

# PharmaKB Alpha Signals

Gain an investment edge.

## Signal #4 - Portfolio Building with Alternative Drug Data

Alternative drug data provides a signal to build a biotech portfolio
with higher performing cumulative revenues
than less preferred companies and a Biotech ETF (XBI).*




* Results are based on retrospective data and may vary in any future trades.

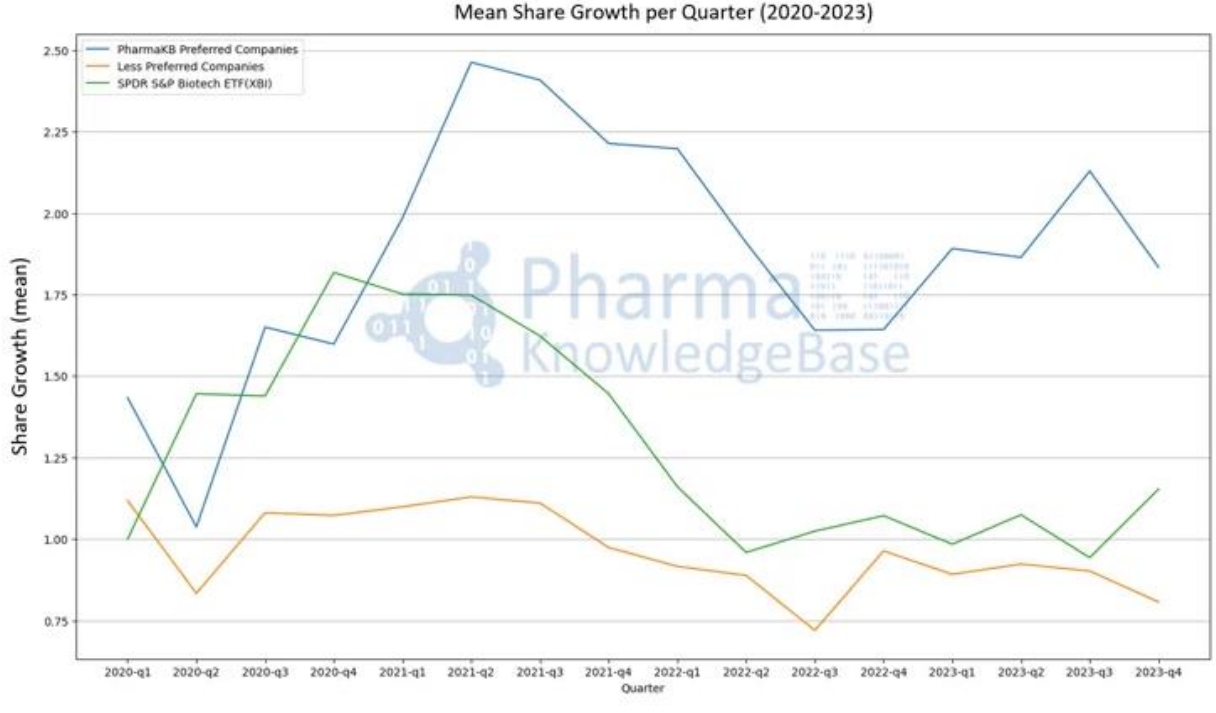
Pharma KnowledgeBase

# PharmaKB Alpha Signals

Gain an investment edge.

## Signal #5 - Predicting Market Shares

Alternative drug data provides a signal to build a biotech portfolio to select companies with higher predicted share growth than less preferred companies and a Biotech ETF (XBI).*




* Results are based on retrospective data and may vary in any future trades.

# PharmaKB Alpha Signals

Gain an investment edge.

**Signal #6 - Trading Drug Regulatory Signals**

Model for trading drug regulatory event signals generates $350 million in capital accumulation, starting from a $1 million investment over 30 years.*

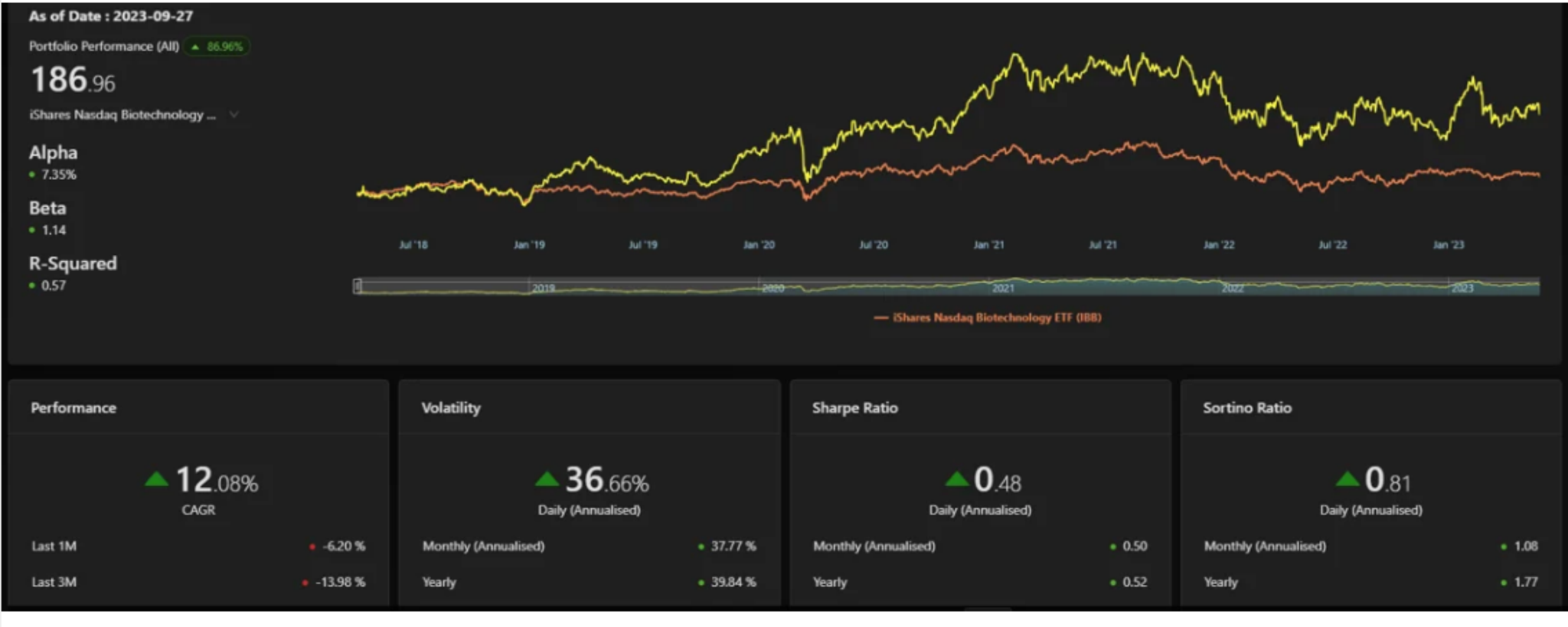
* Results are modeled on retrospective data and may vary in any future trades.

# PharmaKB Alpha Signals

Gain an investment edge.

## Signal #7 - Created by AltHub (3rd Party) using PharmaKB

AltHub (3rd Party) uses a PharmaKB signal to build a biotech portfolio (yellow) with higher returns than the IBB Biotech ETF (orange).*

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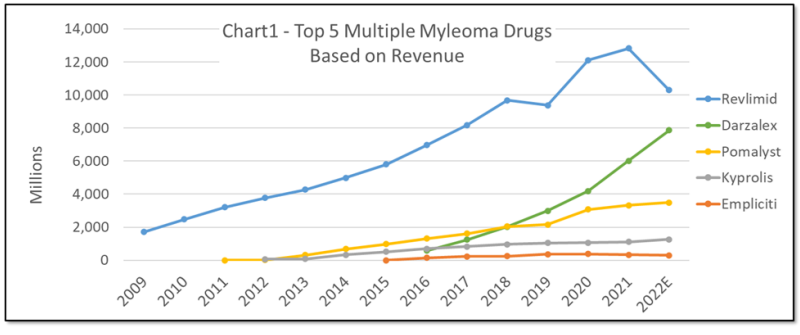
# PharmaKB Case Studies




## Financial Analysis of Competitive Drugs

A case study using PharmaKB to compare competing commercial drugs. Financial investors and pharmaceutical industry leaders utilize the information in PharmaKB to make superior investment and product development decisions...

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## Method for Trend Based Forecasting of Drug Revenues

A case study using PharmaKB to predict company revenues from key indicators of research and market performance...

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# PharmaKB Case Studies

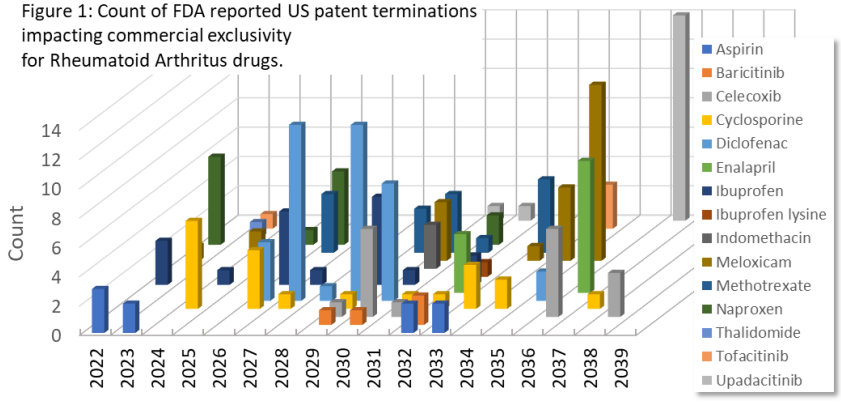

Figure 1: Count of FDA reported US patent terminations impacting commercial exclusivity for Rheumatoid Arthritus drugs.

## Patent Cliff Analysis Support for Generic Drug Decisions

Patent termination events have a startling effect on company revenue. This case study shows FDA reported patent terminations for Rheumatoid Arthritis drugs and summarizes the timing of opportunities for generics companies to enter the market....

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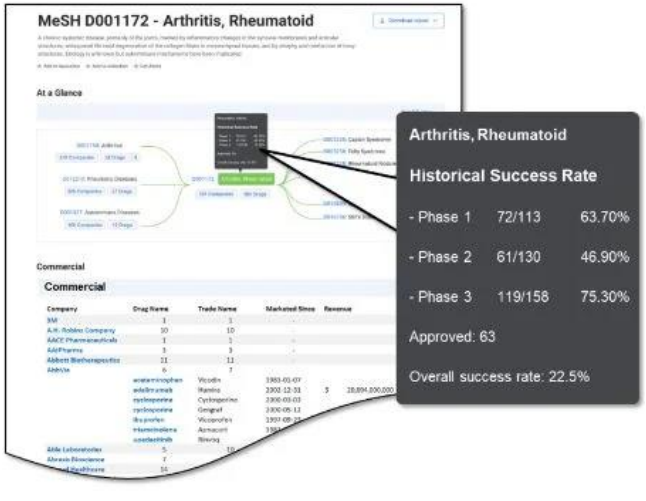


## Tools for Clinical Trials Success Forecasting

PharmaKB clinical trial data enables calculating the likelihood that a drug candidates will successfully advance through each clinical trial and approval stage...

Read More

# PharmaKB Case Studies

## Estimating a Drug Program Net Present Value (NPV)

A well-formed NPV (Net Present Value) analysis for a new potential drug can guide the overall assessed value of the drug program for licensing negotiations, acquisitions, or estimating future potential revenues. PharmaKB data includes relevant factors such as the disease population size, planned drug cost, the current stage of development of the new drug, probability of success, length of clinical trials, and the number of competitive drugs for the disease...

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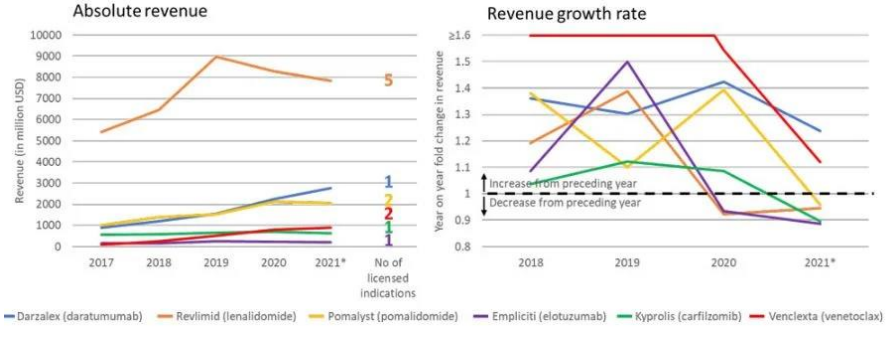


## Tracking Trends and Revenue (Cancer Drugs)

A case study using PharmaKB data to explore trending cancer therapies for multiple myeloma and their impact on revenues of existing treatment regimens. Overall, this case study demonstrates how PharmaKB can be used to investigate changes to the treatment landscape for a particular disease...

Read More

Find us on the web at:
www.pharmakb.com

Contact the PharmaKB Team at:
info@pharmakb.com