

## Site Search

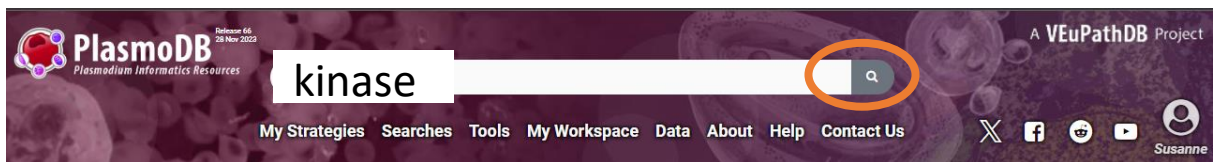
**Note:** this exercise uses PlasmoDB.org as an example database, but the same functionality is available on all VEuPathDB resources.

### Learning objectives:

- Search by keywords or identifiers
- Filter site search results by categories and fields
- Export results to a search strategy
- Find a specific gene using its ID in site search
- Navigate to and from the site search result
- Explore searches using wild cards (\*)

The site search is located in the header of any VEuPathDB site and is available from every page. The site search queries the databases for your term or ID and returns a list of pages and documents that contain your query term.

1. **Search for a keyword.** Enter the word *kinase* in the site search window. Then click enter on your keyboard or click on the search icon.



2. **Site Search result format:** The site search returns a categorized list of pages and documents that contain your term. Site search results are summarized on the left with a details panel on the right. Changing the panel on the left will populate the details panel with that result. What is the total number of results with the word kinase? Are all the results genes?

**All results matching kinase** Export as a Search Strategy to download or mine your results

1 - 20 of 20,250

**Filter results**

Genome  
Genes 19,349

Population biology  
Popset isolate sequences 352

Metabolism  
Metabolic pathways 352  
Compounds 193

Data access  
Data sets 1  
Searches 3

**Filter fields**  
Select a result filter above

**Filter organisms**  
select all | clear all | expand all | collapse all

Type a taxonomic name   ☐ Reference only

☐ Haemoproteidae 332  
☐ Plasmodiidae 19,018

Gene - PCYB\_132500 kinase  
Gene type: protein coding gene  
Organism: Plasmodium cynomolgi strain B  
Fields matched: GO terms; InterPro domains; Orthologs; Preferred product description; Product descriptions

Gene - PKNOH\_S07456300 Kinase  
Gene type: protein coding gene  
Organism: Plasmodium knowlesi strain Malayan Strain Pk1 A  
Fields matched: GO terms; InterPro domains; Orthologs; Preferred product description; Product descriptions

Gene - PKNOH\_S140234600 Kinase  
Gene name or symbol: IPK2  
Gene type: protein coding gene  
Organism: Plasmodium knowlesi strain Malayan Strain Pk1 A  
Fields matched: EC descriptions and numbers; GO terms; InterPro domains; Orthologs; PDB chains; Preferred product description; Product descriptions

Gene - AK88\_00505 pantothenate kinase  
Gene type: protein coding gene  
Organism: Plasmodium fragile strain nilgiri  
Fields matched: EC descriptions and numbers; GO terms; InterPro domains; Orthologs; PDB chains; Preferred product description; Product descriptions

Gene - AK88\_01656 phosphoglycerate kinase  
Gene type: protein coding gene  
Organism: Plasmodium fragile strain nilgiri

[COMMUNITY CHAT](#)

Results are summarized by category

Details panel with information about each item returned

3. **Filter the site search result by category:** How many of the genes included the word kinase in their product descriptions?

Filter the results so that you only view gene results and the Filter Fields section expands to reveal additional filtering options. Select the *Product descriptions* field and choose *Apply*. Once a filter is applied it can be removed by clicking on *Clear filter* (right panel below).

**Filter results**

Genome  
Genes 19,349 [Clear filter](#)

**Filter Gene fields**  
select all | clear all

☐ Alternate product descriptions 6  
☐ EC descriptions and numbers 11,536  
☐ GO terms 8,738  
☐ InterPro domains 10,481  
☐ Orthologs 10,830  
☐ PDB chains 6,797  
☐ Preferred product description 7,510  
☐ Product descriptions 7,514  
☐ PubMed 682  
☐ Rodent malaria phenotype 119  
☐ User comments 256

**Filter organisms**  
select all | clear all | expand all | collapse all

Type a taxonomic name   ☐ Reference only

☐ Haemoproteidae 332  
☐ Plasmodiidae 19,017

**Filter results**

Genome  
Genes 19,349 [Clear filter](#)

**Filter Gene fields**  
select all | clear all

☐ Alternate product descriptions 6  
☐ EC descriptions and numbers 11,536  
☐ GO terms 8,738  
☐ InterPro domains 10,481  
☐ Orthologs 10,830  
☐ PDB chains 6,797  
☐ Preferred product description 7,510  
☒ Product descriptions 7,514  
☐ PubMed 682  
☐ Rodent malaria phenotype 119  
☐ User comments 256

**Filter organisms**  
select all | clear all | expand all | collapse all

Type a taxonomic name   ☐ Reference only

☐ Haemoproteidae 332  
☐ Plasmodiidae 19,017

**Filter results**

Genome  
Genes 7,514 [Clear filter](#)

**Filter Gene fields**  
select all | clear all

☐ Alternate product descriptions 6  
☐ EC descriptions and numbers 11,536  
☐ GO terms 8,738  
☐ InterPro domains 10,481  
☐ Orthologs 10,830  
☐ PDB chains 6,797  
☐ Preferred product description 7,510  
☒ Product descriptions 7,514  
☐ PubMed 682  
☐ Rodent malaria phenotype 119  
☐ User comments 256

**Filter organisms**  
select all | clear all | expand all | collapse all

Type a taxonomic name   ☐ Reference only

☐ Haemoproteidae 103  
☐ Plasmodiidae 7,411

4. **Filter the site search result by organism:** How many of the above genes are found in *Plasmodium falciparum* 3D7? Explore the *Filter organisms* section of the results filter and use the search filter to navigate the tree.

**Filter results**

Genome 7,514 [Clear filter](#)

Genes

**Filter Gene fields** [Clear filter](#)

[select all](#) | [clear all](#)

- ☐ Alternate product descriptions 6
- ☐ EC descriptions and numbers 11,536
- ☐ GO terms 8,738
- ☐ InterPro domains 10,481
- ☐ Orthologs 10,830
- ☐ PDB chains 6,797
- ☐ Preferred product description 7,510
- ☒ Product descriptions 7,514
- ☐ PubMed 682
- ☐ Rodent malaria phenotype 119
- ☐ User comments 256

**Filter organisms**

[select only these](#) | [add these](#) | [clear these](#)

3d7 [x](#) [?](#) ☐ Reference only

- ☐ Plasmodiidae 7,411
  - ☐ Plasmodium 7,279
    - ☐ Plasmodium falciparum 2,792
      - ☐ Plasmodium falciparum 3D7 [Ref] 137

**Filter results**

Genome 7,514 [Clear filter](#)

Genes

**Filter Gene fields** [Clear filter](#)

[select all](#) | [clear all](#)

- ☐ Alternate product descriptions 6
- ☐ EC descriptions and numbers 11,536
- ☐ GO terms 8,738
- ☐ InterPro domains 10,481
- ☐ Orthologs 10,830
- ☐ PDB chains 6,797
- ☐ Preferred product description 7,510
- ☒ Product descriptions 7,514
- ☐ PubMed 682
- ☐ Rodent malaria phenotype 119
- ☐ User comments 256

**Filter organisms**

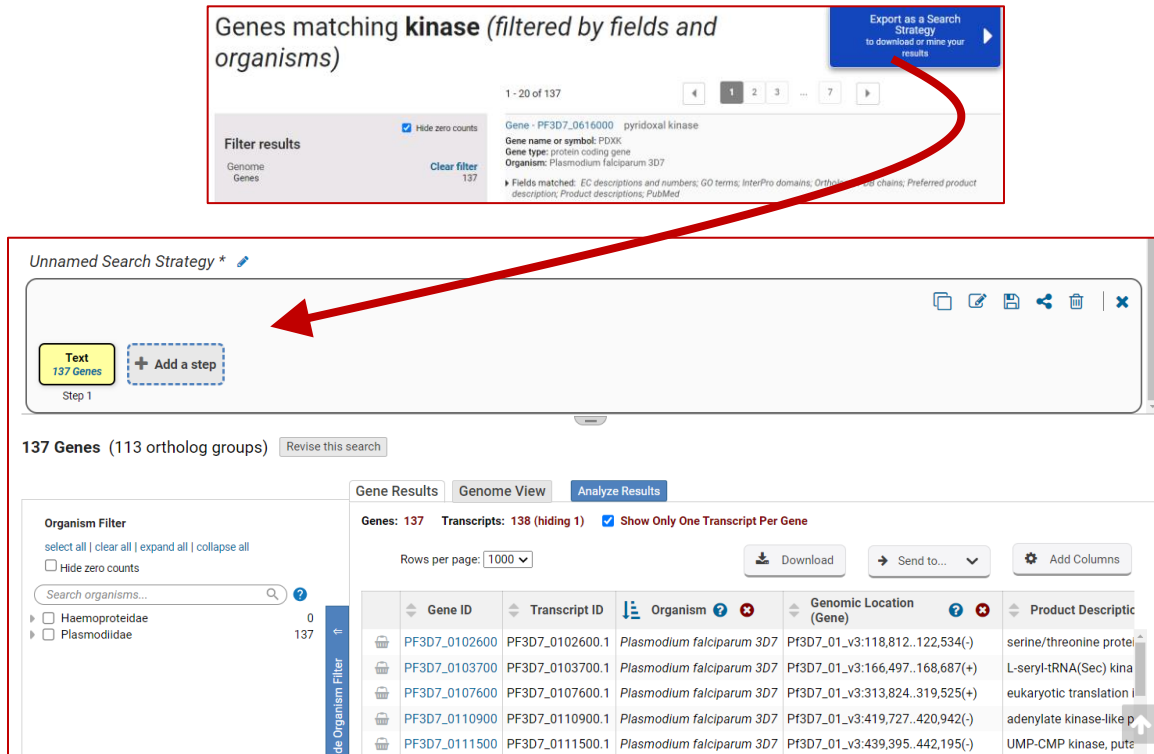
[select only these](#) | [add these](#) | [clear these](#)

3d7 [x](#) [?](#) ☐ Reference only

- ☒ Plasmodiidae 7,411
  - ☒ Plasmodium 7,279
    - ☒ Plasmodium falciparum 2,792
      - ☒ Plasmodium falciparum 3D7 [Ref] 137

[Apply](#) [x](#)

5. **Export the results to a search strategy.** Use the blue *Export as a search strategy* button at the top right-hand side of the results. Once exported you will be able to take advantage of over 100 specialized searches using the Add Step button. We will learn more about this in a future exercise.



The screenshot shows the search results for 'kinase' (filtered by fields and organisms). The top right corner features a blue button labeled 'Export as a Search Strategy to download or reuse your results'. A red arrow points from this button to the 'Unnamed Search Strategy' window. This window contains a 'Text' box with '137 Genes' and an 'Add a step' button. Below the window, the search results are displayed, including a table of genes and transcripts.

**Genes matching kinase (filtered by fields and organisms)**

1 - 20 of 137

**Filter results**

☒ Hide zero counts

[Clear filter](#) 137

Gene: PF3D7\_0616000 pyridoxal kinase  
 Gene name or symbol: PDXX  
 Gene type: protein coding gene  
 Organism: Plasmodium falciparum 3D7

Fields matched: EC descriptions and numbers; GO terms; InterPro domains; Orthologous chains; Preferred product description; Product descriptions; PubMed

**Unnamed Search Strategy \***

Text 137 Genes

+ Add a step

Step 1

**137 Genes (113 ortholog groups)** [Revise this search](#)

**Gene Results** **Genome View** **Analyze Results**

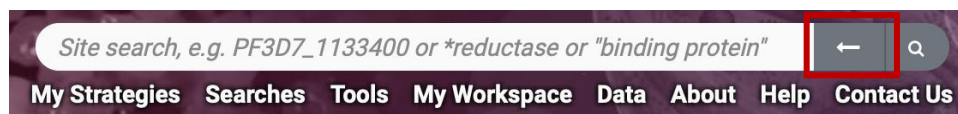
Genes: 137 Transcripts: 138 (hiding 1) ☒ Show Only One Transcript Per Gene

Rows per page: 1000

[Download](#) [Send to...](#) [Add Columns](#)

Gene ID	Transcript ID	Organism	Genomic Location (Gene)	Product Description
PF3D7_0102600	PF3D7_0102600.1	Plasmodium falciparum 3D7	PF3D7_01_v3:118,812..122,534(-)	serine/threonine protease
PF3D7_0103700	PF3D7_0103700.1	Plasmodium falciparum 3D7	PF3D7_01_v3:166,497..168,687(+)	L-seryl-tRNA(Sec) kinase
PF3D7_0107600	PF3D7_0107600.1	Plasmodium falciparum 3D7	PF3D7_01_v3:313,824..319,525(+)	eukaryotic translation initiation factor
PF3D7_0110900	PF3D7_0110900.1	Plasmodium falciparum 3D7	PF3D7_01_v3:419,727..420,942(-)	adenylate kinase-like protein
PF3D7_0111500	PF3D7_0111500.1	Plasmodium falciparum 3D7	PF3D7_01_v3:439,395..442,195(-)	UMP-CMP kinase, putative

6. Return to the site search results page. You can achieve this in two ways: 1. Your previous results and filter settings were preserved and can be accessed by clicking on the 'back to results' arrow in the site search window. 2. Click on your browser's back arrow.



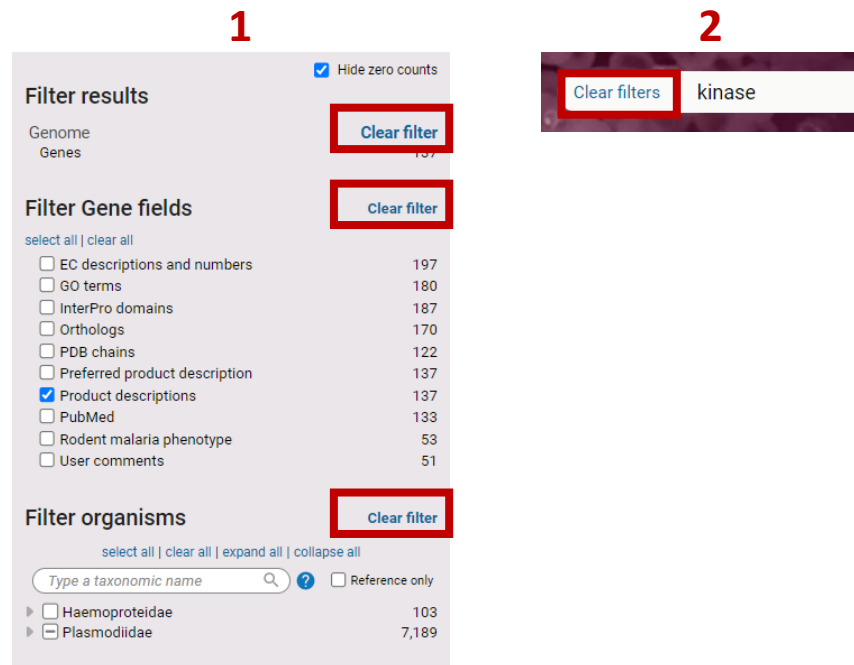
The screenshot shows the site search bar with the text 'Site search, e.g. PF3D7\_1133400 or \*reductase or "binding protein"'. A red box highlights the back arrow icon in the search bar. Below the search bar is a navigation menu with the following items: My Strategies, Searches, Tools, My Workspace, Data, About, Help, Contact Us.

Site search, e.g. PF3D7\_1133400 or \*reductase or "binding protein"

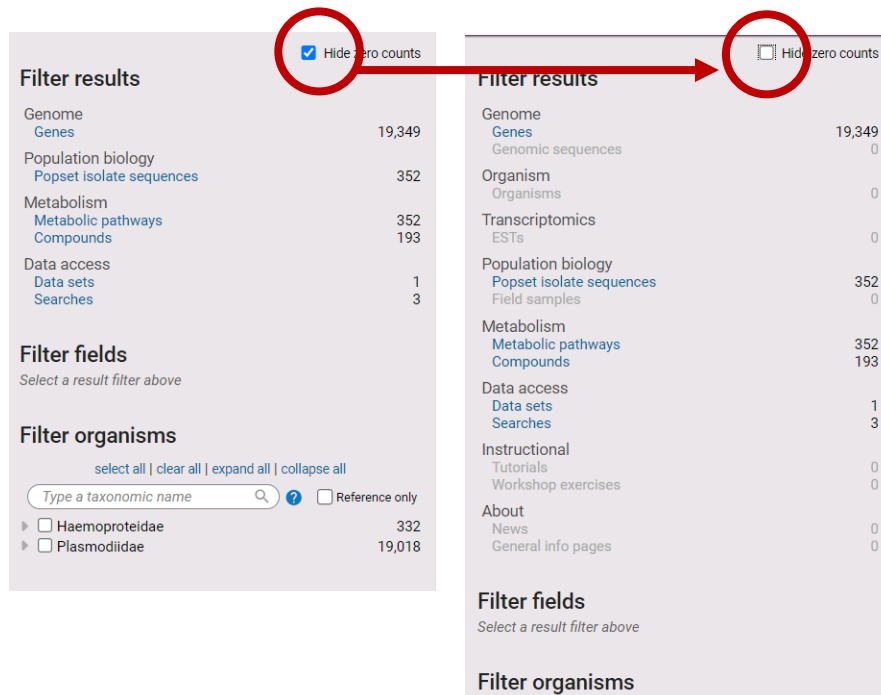
[←](#) [Q](#)

**My Strategies** **Searches** **Tools** **My Workspace** **Data** **About** **Help** **Contact Us**

7. **Clear all filters.** You can achieve this in two ways: 1. You can click on each of the clear filter options in the filter results panel. 2. You can click on the *clear filters option* in the site search window, which serves to Clear All filters.



8. Click the *Hide zero counts* check box in the *Filter results* panel. What does this do?



9. **Run a wild card search.** The wild card (denoted by an asterisk \*) can be used alone to retrieve all site search results or combined with a word such as *\*kinase* to retrieve compound words ending with the word kinase like phosphofructokinase. As usual, results can then be explored using the filters in the *Results filter* on the left side of the website. Feel free to compare the results you get when you run a search or the word *kinase* to a search with a wild card *\*kinase* or *\*kinase\**.

**All results matching \***

1 - 20 of 971,822

Export as a Search Strategy to download or mine your results

☐ Hide zero counts

**Filter results**

Genome	
Genes	349,540
Genomic sequences	22,605
Organism	
Organisms	63
Transcriptomics	
ESTs	287,336

**Compound - CHEBI:100000** (2S,3S,4R)-3-[4-(3-cyclopentylprop-1-ynyl)phenyl]-4-(hydroxymethyl)-1-(2-methoxy-1-oxoethyl)-2-azetidinecarbonitrile

**Compound - CHEBI:100001** N-[(2R,3S,6R)-2-(hydroxymethyl)-6-[2-[[oxo-[4-(trifluoromethyl)anilino]methyl]amino]ethyl]-3-oxanyl]-3-pyridinecarboxamide

**Compound - CHEBI:100002** 3-chloro-N-[(5S,6S,9S)-5-methoxy-3,6,9-trimethyl-2-oxo-11-oxa-3,8-diazabicyclo[10.4.0]hexadeca-1(12),13,15-trien-14-yl]benzenesulfonamide

**Compound - CHEBI:100003** (4R,7S,8R)-8-methoxy-4,7,10-trimethyl-11-oxo-14-(1-oxobutylamino)-N-propyl-2-oxa-5,10-diazabicyclo[10.4.0]hexadeca-1(12),13,15-triene-5-carboxamide

**All results matching \*kinase**

1 - 20 of 22,910

Export as a Search Strategy to download or mine your results

☒ Hide zero counts

**Filter results**

Genome	
Genes	20,945
Population biology	
Popset isolate sequences	1,273
Metabolism	
Metabolic pathways	484
Compounds	204
Data access	
Data sets	1
Searches	3

**Filter fields**  
Select a result filter above

**Filter organisms**  
select all | clear all | expand all | collapse all

Type a taxonomic name  ☐ Reference only

☐ Haemoproteidae 367

☐ Plasmodiidae 20,579

**Gene - AK88\_00104** CK1/CK1/CK1-D protein kinase  
Gene type: protein coding gene  
Organism: Plasmodium fragile strain nilgiri  
Fields matched: EC descriptions and numbers; GO terms; InterPro domains; Orthologs; PDB chains; Preferred product description; Product descriptions

**Gene - AK88\_00479** CAMK protein kinase  
Gene type: protein coding gene  
Organism: Plasmodium fragile strain nilgiri  
Fields matched: EC descriptions and numbers; GO terms; InterPro domains; Orthologs; PDB chains; Preferred product description; Product descriptions

**Gene - AK88\_00505** pantothenate kinase  
Gene type: protein coding gene  
Organism: Plasmodium fragile strain nilgiri  
Fields matched: EC descriptions and numbers; GO terms; InterPro domains; Orthologs; PDB chains; Preferred product description; Product descriptions

**Gene - AK88\_00565** Atypical/ABC1 protein kinase  
Gene type: protein coding gene  
Organism: Plasmodium fragile strain nilgiri  
Fields matched: GO terms; InterPro domains; Orthologs; Preferred product description; Product descriptions

**Gene - AK88\_00580** CMGC protein kinase

10. **Search for a specific gene ID.** Enter the gene ID in the site search window: *PF3D7\_0310100*. When there is an exact match for an ID in the database, the site search offers a card in the details panel to draw attention to the direct link to the gene page. Although your search for *PF3D7\_0310100* does return a direct link to the gene in *P. falciparum* 3D7, it also returns a link to the *P. gaboni* strain gene. Why?

## Genes matching PF3D7\_0310100

Export as a Search Strategy  
to download or mine your results

1 - 2 of 2

**Filter results** ☒ Hide zero counts

Genome  
Genes 2

**Filter Gene fields**  
select all | clear all

☐ External links 1  
☐ Gene ID 1  
☐ Names, IDs, and aliases 1  
☐ Notes from annotators 1

**Filter organisms**  
select all | clear all | expand all | collapse all

Type a taxonomic name   ☐ Reference only

☒ Plasmodiidae 2  
  ☐ Plasmodium 2

**Gene - PF3D7\_0310100** calcium-dependent protein kinase 3

Gene name or symbol: CDPK3  
Gene type: protein coding gene  
Organism: Plasmodium falciparum 3D7

Fields matched: External links; Gene ID; Names, IDs, and aliases

Direct link to PF3D7\_0310100

Gene - PF3D7\_0310100 calcium-dependent protein kinase 3

Gene name or symbol: CDPK3  
Gene type: protein coding gene  
Organism: Plasmodium falciparum 3D7

Fields matched: External links; Gene ID; Names, IDs, and aliases

Gene - PGSY75\_0310100 calcium-dependent protein kinase 3

Gene type: protein coding gene  
Organism: Plasmodium gaboni strain SY75

Fields matched  
Notes from annotators: gap found within coding sequence~ort

Why is this gene returned by a search for PF3D7\_0310100?

1 - 2 of 2