

# 20200505 - Esercitazione Enzimi

Cercare con Google **Brenda Enzyme**:

The screenshot shows a DuckDuckGo search result for 'Brenda Enzyme'. A red arrow points to the first result, which is the official website: <https://www.brenda-enzymes.org>. Below it is a Wikipedia entry for 'Brenda Enzyme' and a link to 'Information on EC 1.2.3.1 - aldehyde oxidase'. On the right side, there is a detailed information box for 'BRENDA' from brenda-enzymes.org, including a description, research center (Technische Universität Braunschweig), and release date (1987). At the bottom, there are images for 'Brenda Enzyme', including the BRENDA logo and the logo of Technische Universität Braunschweig.

Accedere a <https://www.brenda-enzymes.info/> e inserire il numero dell'enzima che avete scelto la volta scorsa (o un altro a scelta) nella casella di ricerca e premere **start search**

The screenshot shows the BRENDA website search interface. A red arrow points to the search input field. The search term '5.3.1.9' is entered in the field. Below the input field, there are buttons for 'add search field', 'delete search field', and 'start search'. A red arrow points to the 'start search' button. The page also features a navigation menu with options like 'Text-based queries', 'Structure-based queries', 'Visualization', 'Prediction', and 'Support'. A blue box highlights the search input field and the 'start search' button.

## 20200505 - Esercitazione Enzimi

A questo punto avrete accesso alla pagina relativa all'enzima scelto e cliccando sul EC number:

1987-2019 **BRENDA** The Comprehensive Enzyme Information System

Refine search

« « Results 1 - 1 of 1 » »  
download as CSV  
download all results as CSV

EC Number	Recommended Name	Synonyms	Commentary
5.3.1.9	glucose-6-phosphate isomerase	5.3.1.9	-

« « Results 1 - 1 of 1 » »  
download as CSV  
download all results as CSV

Si accede alla scheda dell'enzima (dell'attività enzimatica):

BRENDA home  
History

show all | hide all No of entries

- Enzyme Nomenclature 150
- Enzyme-Ligand Interactions 335
- Diseases 752
- Functional Parameters 437
- Organism related Information 184
- General Information 25
- Enzyme Structure 32k
- Molecular Properties 152
- Applications 14
- References 111
- External Links

**BRENDA** The Comprehensive Enzyme Information System

### Information on EC 5.3.1.9 - glucose-6-phosphate isomerase

for references in articles please use BRENDA:EC5.3.1.9

**EC Tree**

- 5 Isomerases
  - 5.3 Intramolecular oxidoreductases
    - 5.3.1 Interconverting aldoses and ketoses, and related compounds
      - 5.3.1.9 glucose-6-phosphate isomerase

**IUBMB Comments**  
Also catalyses the anomerization of D-glucose 6-phosphate.

Specify your search results

Mark a special word or phrase in this record:  **Mark!**

Search Reference ID:  **Search**

Search UniProt Accession:  **Search**

Select one or more organisms in this record:

All organisms

- Aeropyrum pernix
- Apis mellifera
- Arabidopsis thaliana
- Archaeoglobus fulgidus

**Submit**

**Word Map** hide

The expected taxonomic range for this enzyme is: Archaea, Eukaryota, Bacteria

**Reaction Schemes** hide

D-Glucose 6-phosphate = D-fructose 6-phosphate

C(C1C(C(C(C(O1)O)O)O)O)O  $\rightleftharpoons$  C(C(C(C(C(O1)O)O)O)O)O

Questa scheda permette di avere tutte le informazioni conosciute sull'enzima:

Organismo nel quale l'enzima è presente

Diverse sotto-schede con i parametri propri dei diversi isoenzimi con lo stesso EC number

Apriamo la scheda **Functional Parameters** cliccando su +

## 20200505 - Esercitazione Enzimi

Use of this online version of BRENDA is free under the CC BY 4.0 license. See terms of use for full details.

evaluate BRENDA! Information Getting started Contribute Download member of **de** **NBI** **elixir** Care Data Resource **UPDATE!** Release 2020.1 (January 2020) **BRENDA professional**

Marcando i diversi campi  si visualizzano i valori corrispondenti

0.031 - 170	D-fructose 6-phosphate	+ 51 entries	
1.029	D-galactose	Pseudomonas aeruginosa	-
0.084 - 267.4	D-glucose 6-phosphate	+ 37 entries	
0.25 - 1.1	D-mannose 6-phosphate	+ 2 entries	
0.01 - 0.74	fructose 6-phosphate	+ 45 entries	
0.03 - 8	glucose 6-phosphate	+ 28 entries	
133	L-talose	Pyrococcus furiosus	-
additional information	additional information	+ 6 entries	

Scopo dell'esercitazione è individuare valori di  $K_M$  e  $K_i$  per, rispettivamente, un substrato e un inibitore (possibilmente per lo stesso organismo) usando la tabella espandendola cliccando su **additional information**

I valori scelti andranno inseriti nel file excel scaricabile dal sito web al link:

[www.gsartor.org/pro/didattica/pdf\\_files/Cinetica2020.xlsx](http://www.gsartor.org/pro/didattica/pdf_files/Cinetica2020.xlsx)

**L'utilizzo del file excel verrà descritto durante l'esercitazione.**