

dbACP : Search help

1. Open the Home page and click on the **Search** button in the header.

The screenshot shows the top navigation bar of the dbACP website with links for **dbACP**, Home, Search, Contact, and Help. Below the navigation bar is a main heading: **dbACP : A manually curated comprehensive database for Anti-cancer peptides.**

Welcome to dbACP, a comprehensive manually curated database dedicated to the study of anticancer peptides (ACPs). This platform provides detailed information on various anticancer peptides, including their sequences, modifications, biological activities, and mechanisms of action. Designed to support researchers in the field of peptide-based therapeutics, dbACP offers a robust repository of data on peptides derived from different organisms, including natural, synthetic, and derivative forms.

The database includes insights into peptide structures, such as linear and cyclic conformations, and detailed molecular descriptors. In addition to providing data on peptide sequences and structural properties, dbACP also offers activity information like membranolytic mechanisms, LC50 values, and effectiveness against different cell lines, particularly in cancer research. Users can explore secondary structure fractions, hydrophobicity, isoelectric points, and other physicochemical properties, facilitating a deeper understanding of peptide function and interaction. dbACP integrates resources for computational analyses, such as QSAR descriptors and ADMET properties, enabling users to predict peptide behavior and efficacy.

Whether you are focused on discovering new peptide drugs or understanding their molecular properties, dbACP serves as a vital resource in advancing peptide research and development.

Statistical information about dbACP

Peptide Entries : 3491	Cell lines : 633	Cancer types : 158
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2. dbACP supports different searching modes, Search by : **Peptide name, Source Sequence, Assay type, Cell line, Cancer type** and **Mechanism**. Brief search results are presented as a table in the browse page.

The screenshot shows the Search page of the dbACP website. The navigation bar is identical to the Home page. The main heading is **Search here**.

This extensive, manually curated database offers in-depth information on anticancer peptides, including their sequences, structural modifications, and biological activities. Users can search for peptides by name, source, sequence, assay type, cell line, cancer type, or mechanism of action. Our platform provides detailed data on peptide structures, mechanisms, and efficacy, including membranolytic activities, LC50 values, and effectiveness against various cancer cell lines. Additionally, dbACP supports computational analyses with QSAR descriptors and ADMET properties, aiding in the prediction of peptide behavior and therapeutic potential. Explore dbACP to advance your research in peptide-based cancer therapies.

Write your Query here to search.

Peptide name Source Sequence Assay type Cell line Cancer type Mechanism

Submit

Use these information for demo search

Peptide name : Aurein 3.1
Source : Southern bell frog
Sequence : GLFDIVKKVVGAIKSL
Assay type : MTT/MTS assay
Cell line : A549
Cancer type : Breast cancer
Mechanism : Cell membrane penetration

3. On the next page are presented as cards which include Accession ID, and other anticancer peptide related information. The “Browse” page is organized as an interactive card for quickly searching datasets of interest. Users can click the accession of the data summary of interest to get the complete information. For example, Accession ID: **dbacp00307**

dbACP	Home	Search	Contact	Help
19 result have been found				
Accession ID : dbacp01251 Peptide name : Aurein 3.1 Source/Organism : Southern bell frog, Australia Sequence : GLFDIVKKIAGHIAGSI	Mechanism : Cell membrane disruption Assay type : Not specified Cell line : Breast tumor cell line	Cancer type : Breast cancer Activity : LC50 : 10-100 µM Test time : Not found		
Accession ID : dbacp01252 Peptide name : Aurein 3.1 Source/Organism : Southern bell frog, Australia Sequence : GLFDIVKKIAGHIAGSI	Mechanism : Cell membrane disruption Assay type : Not specified Cell line : Leukemia tumor cell line	Cancer type : Leukemia cancer Activity : LC50 : 10 µM Test time : Not found		
Accession ID : dbacp01253 Peptide name : Aurein 3.1 Source/Organism : Southern bell frog, Australia Sequence : GLFDIVKKIAGHIAGSI	Mechanism : Cell membrane disruption Assay type : Not specified Cell line : Lung tumor cell line	Cancer type : Lung cancer Activity : LC50 : 10 µM Test time : Not found		
Accession ID : dbacp01254 Peptide name : Aurein 3.1 Source/Organism : Southern bell frog, Australia Sequence : GLFDIVKKIAGHIAGSI	Mechanism : Cell membrane disruption Assay type : Not specified Cell line : Colon tumor cell line	Cancer type : Colon cancer Activity : LC50 : 10 µM Test time : Not found		
Accession ID : dbacp01255 Peptide name : Aurein 3.1 Source/Organism : Southern bell frog, Australia Sequence : GLFDIVKKIAGHIAGSI	Mechanism : Cell membrane disruption Assay type : Not specified Cell line : Brain tumor cell line	Cancer type : Brain tumor Activity : LC50 : 10-100 µM Test time : Not found		
Accession ID : dbacp01256 Peptide name : Aurein 3.1 Source/Organism : Southern bell frog, Australia Sequence : GLFDIVKKIAGHIAGSI	Mechanism : Cell membrane disruption Assay type : Not specified Cell line : Skin tumor cell line	Cancer type : Skin cancer Activity : LC50 : 10-100 µM Test time : Not found		

4. Finally, the page will be redirected to the result page with all the information related to anticancer peptide: **General description, Sequence information, Activity information, Molecular descriptors and ADMET properties, and reference.**

dbACP	Home	Search	Contact	Help
dbacp01251				
General description				
Peptide name : Aurein 3.1 Source/Organism : Southern bell frog, Australia		Linear/Cyclic : Linear Chirality : L		
Sequence information				
Sequence : GLFDIVKKIAGHIAGSI				
C-terminal modification : Free N-terminal modification : Cell membrane disruption		Click here for more info.		
Activity information				
Assay type : Cell membrane disruption Assay time : Not found Activity : LC50 : 10-100 µM Mechanism of action : Cell membrane disruption		Cell line : Breast tumor cell line Cancer type : Breast cancer Other activity : Anti-bacterial activity		
Molecular descriptors and ADMET properties				
Peptide molecular descriptors : Click here		Peptide ADMET properties : Click here		
Reference				
Pubmed Id : 10951191				

5. For more information about sequences like **physicochemical properties** and **Smile notations**, users can navigate this page from the sequence information section, by clicking on the provided link.

dbacp01251

Other sequence information

Sequence : GLFDIVKKIAGHIAGSI

Amino acid percentages(%): {A: 11.7647, C: 0.0, D: 5.8824, E: 0.0, F: 5.8824, G: 17.6471, H: 5.8824, I: 23.5294, K: 11.7647, L: 5.8824, M: 0.0, N: 0.0, P: 0.0, Q: 0.0, R: 0.0, S: 5.8824, T: 0.0, V: 5.8824, W: 0.0, Y: 0.0}

Amino acid count : {A: 2, C: 0, D: 1, E: 0, F: 1, G: 3, H: 1, I: 4, K: 2, L: 1, M: 0, N: 0, P: 0, Q: 0, R: 0, S: 1, T: 0, V: 1, W: 0, Y: 0}

Missing amino acid : C,M,R,T,E,W,N,Y,Q,P

Most occurring amino acid : I

Most occurring amino acid frequency : 4

Least occurring amino acid : L

Least occurring amino acid : L

Least occurring amino acid frequency : 1

Hydrophobic/hydrophilic amino acid ratio : 2.4

Molecular mass : 1739.0664

Aliphatic index : 1.4353

Instability index : 30.8353

Hydrophobicity (GRAVY) : 0.9353

Isoelectric point : 8.5984

Hydrophobic moment : -1.1521

Charge (pH : 7) : 0.8464

Aromaticity : 5.8824

Molar extinction coefficient (cysteine|cystine) : (0, 0)

Secondary Structure fraction (Helix, Turn, Sheet) : [0.29, 0.29, 0.41]

Smiles Notation

Smiles : CC[C@@H](C)[C@@H](NC(=O)[C@H](CO)NC(=O)CNC(=O)[C@H](C)NC(=O)[C@@H](NC(=O)[C@H](Cc1c[nH]cn1)NC(=O)CNC(=O)[C@H](C)NC(=O)[C@@H](NC(=O)[C@H](CCCCN)NC(=O)[C@H](CCCCN)NC(=O)[C@@H](NC(=O)[C@@H](NC(=O)[C@H](CC(=O)O)NC(=O)[C@H](Cc1ccccc1)NC(=O)[C@H](CC(C)C)NC(=O)N)[C@@H](C)C(C)C)[C@@H](C)C)[C@@H](C)C(=O)O