



Office helper



1HHO provenance details

PDB API working well, with only user queried information presented in the response. No irrelevant information such as resolution and deposit dates are presented.



The provenance details for the structure with PDB ID 1HHO are as follows: The structure was determined using X-ray diffraction. This method is commonly used to determine the atomic and molecular structure of a crystal, in which the crystalline atoms cause a beam of incident X-rays to diffract into many specific directions. This particular structure represents human oxyhaemoglobin and was submitted by Shaanan, B.



well done, now we will explore the relevant patents

Bouns Google Patent integrated.



Here are some relevant patents related to chemistry research, along with their status in the United States (US), European Union (EP), and China (CN):

1. Anthelmintic compounds and compositions and method of using thereof

- Inventor: Charles Q. Meng
- Status: US - ACTIVE, EP - ACTIVE, CN - ACTIVE
- [Read more](#)

2. Machine learning based methods of analysing drug-like molecules

- Inventor: Hagen TRIENDL
- Status: US - ACTIVE, EP - Not specified, CN - Not specified
- [Read more](#)

3. Site-specific glycoengineering of targeting moieties

- Inventor: Luis Avila
- Status: US - ACTIVE, EP - ACTIVE, CN - ACTIVE
- [Read more](#)

4. Oligonucleotide-ligand conjugates and process for their preparation

- Inventor: Muthusamy Jayaraman

- Status: US - ACTIVE, EP - ACTIVE, CN - Not specified
- [Read more](#)

5. Heteroaryl compounds, compositions thereof, and use thereof as protein kinase inhibitors

- Inventor: Ronald J. Albers
- Status: US - ACTIVE, EP - ACTIVE, CN - ACTIVE
- [Read more](#)

These patents cover a range of innovative approaches and methods in chemistry, from drug analysis using machine learning to novel compounds for medical applications. If you have any specific interest in one of these areas, feel free to ask for more details!



Now find organism source of it, can it originate from other species?

Using known Knowledge from the PDB API, smoothly integrated with web search results.



The protein with PDB ID "1HHO" originates from the organism Homo sapiens, which means it is derived from humans. The information was obtained through X-ray diffraction studies.

As for whether it can originate from other species, proteins similar to human hemoglobin (which is what "1HHO" represents) can indeed be found in a wide range of organisms, including other mammals, birds, reptiles, and even some invertebrates. However, the exact structure and amino acid sequence may vary between species, leading to differences in function and properties.



Thanks, find more facts about it on web.

Possible to find more web search results without repeating what is in the chat history. Demonstrate the memory of 1HHO in four Q&As.



The 1HHO protein is the structure of human oxyhemoglobin, a key protein in red blood cells. This protein plays a vital role in transporting oxygen from the lungs to the tissues and returning carbon dioxide from the tissues to the lungs. The structure of oxyhemoglobin has been resolved at a resolution of 2.1 Ångströms, which provides detailed insights into its molecular configuration. The PDB code 1HHO is used to identify this specific structure in protein data banks.

If you need more detailed information or have specific questions about oxyhemoglobin, feel free to ask!

Ask me something about a molecule...

