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Protein Function Understanding Dataset (PFUD)

User: Based on the given protein structure and sequence, predict the cellular compartment it would predominantly reside in:

- protein sequences ... 4 protein sequence
- Assistant: Our prediction for the subcellular localization of the submitted protein structure and sequence suggests it resides

Protein Structure Prediction Dataset (PSPD)

within the plasma membrane region of the cell.

User: The table below provides protein sequence information about a specific protein.

< protein sequence>...
Given above information, what is its protein structure?

Assistant: < protein structure>...</ protein structure>

Protein Structure Analysis Dataset (PSAD)

User: Please analyze the provided protein sequence and offer a detailed description of its subunit composition, including the organization and interactions between the subunits. Subsequently based on the sequence and structural analysis, predict the overall protein structure.

< protein sequence>...

Assistant: Based on the analysis, the protein's subunit structure is characterized by: Homotetramer. The predicted structure is:

Protein Design Dataset (PDD)

User: Synthesize a protein sequence that has the desired solubility or other physical properties for the intended use.

- 1. The protein can be targeted to plasma membrane and perform lactate dehydrogenase activity, FMN binding.
- 2. ...

Assistant: The amino acid sequence for your custom protein design is:

- < protein sequence>...
- The predicted protein structure is:

< protein structure>...