

Open Research Question

Does it **function intracellularly** (as a regulatory microprotein) rather than as a secreted signaling peptide, and what **cellular process** might it influence?

Uncharacterized protein (LOC122394732) [*Homo sapiens*] : <seq>M G F V T N K S A F K A G D S L Y L R R A F V N N L G E E R R T R I Q I Q S I Q K A L D I Q I R E I D R E K A A L K R F L V K L H K T T G Y F P Q K P L W</seq>

Model Answers

Qwen3-14B: **No**, it does not function intracellularly as a regulatory microprotein but rather **as a secreted signaling peptide**. The cellular process it might influence could **involve signaling pathways related to extracellular communication**, such as immune responses, synaptic plasticity, or vasoconstriction, depending on its specific interactions and ligands.

Kimi-k2: **No**. The sequence **contains a predicted signal peptide (MGFVTNKSFAF)** and lacks known nuclear localization or other intracellular retention motifs. It is most likely secreted and, based on its length and basic charge, may act as **an extracellular signaling peptide influencing cell–cell communication or receptor-mediated processes** rather than intracellular regulation.

GPT-4o: The sequence does **not appear to be a secreted signaling peptide** based on its length and composition. Secreted peptides are typically shorter and contain signal sequences that facilitate their export out of the cell. This protein sequence is relatively long and lacks obvious signal peptide motifs.

Open Research Question

Is the protein **involved in cellular stress or growth signaling pathways**, adjusting protein synthesis in response to conditions?

Uncharacterized protein C8orf88 [*Homo sapiens*]: <seq>M E T K K L I G K P L Q P A R P V R H L T S P P G A V F P F N F Q N E Y P C N T Q C I Q S G V S R C K T N G M Q A F S Q G L N E Q Q Q Q Q S P V K K E R I K Y S R D F L L K L S S V S I C R K K P D F L P D H P I V L Q K P E N N Q S F K</seq>

Model Answers

Qwen3-14B: There is **no evidence to suggest** that the uncharacterized protein C8orf88 is directly involved in cellular stress or growth signaling pathways that adjust protein synthesis. in response to conditions.

Kimi-k2: **No**.

GPT-4o: Based on the information given, there is **no direct indication** that this protein is involved in cellular stress or growth signaling pathways, or in adjusting protein synthesis in response to conditions.