

*Golgi Apparatus: Which one of the following would least likely be found in the membrane or lumen of a secretory vesicle?*

- A. Mannose-6-phosphate receptor*
- B. A plasma membrane receptor*
- C. AN extracellular matrix protein*
- D. A lysosomal glycosidase*
- E. A Krebs cycle enzyme.*

*Why would it be E instead of A?*

E - a Krebs cycle enzyme would only be found in the cytoplasm, (where it would be translated) and inside a mitochondria, where the Krebs cycle takes place. It would not have to pass through the ER or Golgi at any point. Every other enzyme listed would be translated by an ER-membrane bound ribosome, be sorted at the Golgi apparatus, and would then be sent to its ultimate destination via a vesicle. A - a mannose-6-phosphate receptor would be sent to a late endosome, so the late endosome could properly receive the proteins tagged with M-6-P for delivery to an endosome and eventual function in a lysosome. (The MPRs are eventually sent back to the Golgi to be recycled.)

*Unique solution ID: #2457*

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