

Dr. Glaser

Extra credit questions

You have 10 minutes to answer the 4 questions

Pick the **best** answer.

1. Proteins targeted to mitochondria will have “address labels” i.e. amino acid sequences that direct them to the proper site. For the group of proteins coded by nuclear genes that go to mitochondria you expect to have the following number of different labels: (2 point)
 - a) One
 - b) Two
 - c) Four
2. Many proteins destined to be secreted have N-linked oligosaccharides. The initial N-linked oligosaccharides in the ER include three glucose residues. (2 points)
 - a) When these proteins are transported from the ER to the Cis Golgi they retain one glucose
 - b) The protein transported to the Cis Golgi is glucose free
 - c) An inhibitor of the enzyme(s) that remove glucose residues from these proteins would prevent the transport of these proteins to the Cis Golgi
 - d) b and c apply
 - e) a and c apply
3. You expect the pH in the lumen of the Cis Golgi relative to the ER to be: (2 points)
 - a) Golgi > ER
 - b) Golgi < ER
4. Imagine that you have discovered an inhibitor of Ran GTPase activity. When you add this inhibitor to cells you expect: (2 points)
 - a) Nuclear import of proteins is stimulated and nuclear export is inhibited
 - b) Nuclear import of proteins is inhibited and nuclear import is stimulated
 - c) Both import and export are inhibited
 - d) Both import and export are stimulated