GMAT阅读资料第36篇 PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/126/2021_2022_GMAT_E9_98_85_E8_AF_BB_c89_126625.htm protein synthesis begins when the gene encoding a protein is activated. the genes sequence of nucleotides is transcribed into a molecule of messenger rna (mrna), which reproduces the information contained in that (5) sequence. transported outside the nucleus to the cyto- plasm, the mrna is translated into the protein it encodes by an organelle known as a ribosome, which strings together amino acids in the order specified by the sequence of elements in the mrna molecule. since the (10) amount of mrna in a cell determines the amount of the corresponding protein, factors affecting the abundance of mrnas play a major part in the normal functioning of a cell by appropriately regulating protein synthesis. for example, an excess of certain proteins can cause cells (15) to proliferate abnormally and become cancerous. a lack of the protein insulin results in diabetes. biologists once assumed that the variable rates at which cells synthesize different mrnas determine the quantities of mrnas and their corresponding proteins (20) in a cell. however, recent investigations have shown that the concentrations of most mrnas correlate best, not with their synthesis rate, but rather with the equally vari- able rates at which cells degrade the different mrnas in their cytoplasm. if a cell degrades both a rapidly and (25) a slowly synthesized mrna slowly, both mrnas will accumulate to high levels. an important example of this phenomenon is the development of red blood cells from their

unspecialized parent cells in bone marrow. for red blood cells to accu- (30) mulate sufficient concentrations of hemoglobin (which transports oxygen) to carry out their main function, the cells parent cells must simultaneously produce more of the constituent proteins of hemoglobin and less of most other proteins. to do this, the parent cells halt synthesis (35) of nonhemoglobin mrnas in the nucleus and rapidly degrade copies of the nonhemoglobin mrnas remaining in the cytoplasm. halting synthesis of mrna alone would not affect the quantities of proteins synthesized by the mrnas still existing in the cytoplasm. biologists now (40) believe that most cells can regulate protein production most efficiently by varying both mrna synthesis and degradation, as developing red cells do, rather than by just varying one or the other. 1. the passage is primarily concerned with discussing the (a) influence of mrna concentrations on the development of red blood cells (b) role of the synthesis and degradation of mrna in cell functioning (c) mechanism by which genes are transcribed into mrna (d) differences in mrna concentrations in cell nuclei and in the cytoplasm (e) way in which mrna synthesis contributes to the onset of diabetes 2. the passage suggests that a biologist who held the view described in the first sentence of the second paragraph would most probably also have believed which of the following? (a) the rate of degradation of specific mrnas has little effect on protein concentrations. (b) the rate of degradation of specific mrnas should be studied intensively. (c) the rates of synthesis and degradation for any given mrna are normally equal. (d) different mrnas undergo degradation at widely

varying rates. (e) most mrnas degrade very rpaidly. 