

February 9, 2019

平成31年度

島根大学大学院医学系研究科

医科学専攻（修士課程）入学者選抜

（第2次募集）

試験問題

小論文

English Test(shoronbun)

（60分間）

Time limit: 60 minutes

注意

- 1 問題紙は指示があるまで開いてはいけません。
- 2 問題紙は表紙を除き3枚です。
- 3 問題紙は持ち帰ってください。

Notice:

1. Do not open this cover until you have been instructed to by a proctor.
2. The question sheet consists of 3 pages not including this cover.
3. You must bring the question sheet back when you are finished.

Read the story and answer the following questions.

(この部分につきましては、著作権の関係により、公開しません。)

(出典:現代化学 8 10 ページ「キリンの首はなぜ長い」から改変引用)

Fibroblast growth factor: 線維芽細胞増殖因子 Somite: 体節

(この部分につきましては、著作権の関係により、公開しません。)

Question 1 What sentence is appropriate for (A)?

- 1 you may find out the gene that shortens the neck of giraffe.
- 2 you may find out the gene that has no relation to the neck of giraffe.
- 3 even if you find a difference between the two genomes, the difference may be the difference that occurred in the okapi strain.

Question 2 70 genes in the underlined part (B) is considered to have mutated in ①, ②, or ③ in Figure 1. Choose the number.

- 1 ①
- 2 ②
- 3 ③

Question 3 Please choose an appropriate word in (C).

- 1 activating
- 2 initiating
- 3 interfering

Question 4 Figure 2 shows the amino acid sequence of X protein derived from genes of giraffe, okapi, and cattle. Which position is the X gene supposed to be located in the gene phylogenic tree shown in Figure 1.

- 1 ①
- 2 ②
- 3 ③

Question 5 How does identifying and clarifying the function of genes specifying the giraffe's long neck contribute to medicine?

キリンの首が長い原因となる遺伝子をつきとめ、その機能を解明することは医学にどのように貢献すると考えられるか。