

2024 年度秋季・2025 年度春季 I 期 大学院医学研究科入学試験
2024 年度第 1 回 大学院医学研究科外国語試験 出題意図および解答・解答例

〈出題意図〉

本学における大学院医学研究科入学試験・外国語試験は、多岐にわたる領域から外国語（英語）論文が選定され、外国語（英語）の設問に対して外国語（英語）あるいは正誤で解答する形式が採用されている。その意図するところは、幅広い医学・健康・生命科学に関する外国語（英語）論文を理解するに足りる十分な語学力と設問に対して適切に解答できる論理力を判定することにある。このような能力は、高度な医療や研究を展開するために必要不可欠であり、よって、本試験でその能力の有無を判定するものである。

【注意】

以下に記載しているものは解答例です。解答例以外にも正解とする場合があります。

英語 A Questions & Answers

Answer the questions in English.

Q1. What feasts may suppress immunity according to a new study?

〈解答例〉

A new study shows that even short-term feasting on high-calorie, fibre-poor foods can suppress immunity.

Q2. How did the transcriptome profile in mice's guts change just three days after switching their diet to a "feast diet" (FD)?

〈解答例〉

The transcriptome profile in the intestine had most notably a downregulation of type III cytokine genes (Il17a, Il17f and Il22).

Q3. The switch to the FD impaired their ability to clear infection with Salmonella enterica serovar Typhimurium. As a result, what happened to the mice that were fed the FD?

〈解答例〉

FD induced a greater weight loss and bacterial load compared with mice on the Regular Diet (RD) .

Q4. What experimental findings support the role of FD-induced reduction in TH17 cells?

〈解答例〉

A role for FD-induced reduction in TH17 cells was supported by the finding that Il17a^{-/-}Il17f^{-/-} mice kept on the RD showed the same impaired ability to control infection as mice switched to the FD.

Q5. What in FD caused the change in microbiota and the reduction in short-chain fatty acid levels?

〈解答例〉

The lack of fibre in the FD did.

The lack of fibre in the FD altered the microbiota and resulted in lower levels of short-chain fatty acids (SCFAs), which correlated with reduced mTOR activity and intestinal cytokine expression.

英語 B Questions & Answers

Answer the questions in English.

Q1. What is the role of claudin-18?

〈解答例〉

It plays a pivotal role in maintaining barrier function and cell polarity and promotes acid resistance.

Q2. In what normal tissues are CLDN18.1 and CLDN18.2 expressed?

〈解答例〉

The two isoforms, CLDN18.1 and CLDN18.2, are mainly expressed in normal gastric and lung tissues.

Q3. Is CLDN18 expression altered in metastatic lesions compared with that in primary tumors?

〈解答例〉

CLDN18 altered expression is stable during the stepwise gastric metastatic process.

Q4. What tumors are associated with membrane-positive expression of CLDN18?

〈解答例〉

Positive membrane CLDN18 expression was associated with non-antral tumors, Laur'en diffuse histologic subtype and EBV-associated cancers.

Q5. What is associated with the CLDN18-ARHGAP fusion gene?

〈解答例〉

The CLDN18-ARHGAP fusion in gastric cancer is strictly associated with signet-ring cell component, younger age at diagnosis, female/male ratio, and advanced TNM stage.

英語 C Questions & Answers

Answer the questions in English.

Q1. Why is the critical care community concerned about the safety of proton-pump inhibitors?

〈解答例〉

The critical care community is concerned about the safety of proton-pump inhibitors because previous trials and observational studies have suggested a possible increased risk of pneumonia and *Clostridioides difficile* infection, and some evidence has hinted that mortality may be higher in more severely ill patients.

Q2. What had been reported in the meta-analysis that combined data from the REVISE and SUP-ICU trials?

〈解答例〉

These data confirmed the beneficial effect of pantoprazole on gastrointestinal bleeding, did not support an association with pneumonia or *C. difficile* infection, and confirmed the existence of treatment-effect heterogeneity on mortality. However, the results suggested decreased mortality among less severely ill patients and confidence intervals that included unity for higher mortality among more severely ill patients.

Q3. Why was it difficult to detect in even high-quality trials?

〈解答例〉

It was difficult to detect in even high-quality trials, given the low event rates and substantial causal noise.

Q4. Ultimately, what do you understand from the meta-analysis?

〈解答例〉

Proton-pump inhibitors slightly but significantly reduce the risk of important gastrointestinal bleeding and may modestly decrease mortality in less severely ill patients during mechanical ventilation. In contrast, they do not reduce — and may slightly increase — mortality in more severely ill patients.

Q5. What criteria does the author consider when deciding to prescribe proton-pump inhibitors?

〈解答例〉

The author considers the patient's severity of illness, planning to prescribe proton-pump inhibitors for those with an APACHE II score below 25, and to reserve their use in more severely ill patients for situations such as concurrent antiplatelet therapy, especially when therapeutic anticoagulation is also being used.

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英語 D Questions & Answers

If the following sentence is correct, please enter ○, and if it is incorrect, enter ×.

〈解答〉

1. (○) Dr. Ober and her team tested the women, their parents and male odor donors for HLA antigens, and analyzed whether a woman's choice of male odors was associated with HLA alleles inherited from her father, mother or both.
2. (×) Their findings were consistent with those from another smelly T-shirts study.
3. (○) There is not one most preferred male odor for everyone because odor preference is based on the degree of HLA differences between a man and a woman.
4. (×) The memory of their father's smell in childhood also influences women's choice of male scent.
5. (○) The association between women's choice of partners and MHC genes may give future children the best chance of survival by sharing a mix of disease-fighting genes.