



## CENTRO DE LÍNGUAS – EXAME DE PROFICIÊNCIA EM LÍNGUA INGLESA

NOME:.....

### BIOLÓGICAS

- ✓ Nas páginas que seguem, é possível encontrar textos e amostras de questões das provas de proficiência em inglês de forma aleatória.
- ✓ Os modelos não trazem provas inteiras.
- ✓ O gabarito encontra-se no final de cada texto.
- ✓ As provas consistem, predominantemente, de 2 a 3 textos, com um total de 20 questões. Algumas unidades ainda adotam o sistema de 14 questões.
- ✓ Os textos são de teor acadêmico e relacionados a disciplinas e programas da pós-graduação das unidades em convênio com o Centro de Línguas.
- ✓ Para cada questão há apenas uma resposta correta.

O modelo é composto por três textos:

I – An Investigation of the Physiology and Potential Role of Components of the Deep Ocean Community

II- Scientists Try New Strategy to Eradicate Dengue Fever

III – Antibiotic Resistance: Blame it on Lifesaving Malaria Drug?

➤ As questões de 1 a 11 se referem ao texto *An Investigation of the Physiology and Potential Role of Components of the Deep Ocean Bacterial Community*

1. As bactérias no fundo do mar
  - a) são responsáveis pela constituição da zona afótica.
  - b) são importantes na reciclagem de matérias orgânicas.
  - c) fazem a mineralização de toda a matéria orgânica do ecossistema marinho.
  - d) impossibilitam um desenvolvimento maior do ecossistema.
  
2. Sobre as bactérias generalistas e especialistas, é correto afirmar que
  - a) ambas respondem rapidamente ao tipo de nutriente disponível no ambiente.
  - b) as primeiras possuem um metabolismo mais flexível do que as segundas.
  - c) as segundas constituem-se apenas por microrganismos que derivam de locais de pressão alta.
  - d) nenhuma das duas proporciona um ambiente apropriado para crescimento.

3. Nos estudos realizados sobre os efeitos da pressão hidrostática nos microrganismos, os resultados

- a) reiteram que quanto maior a pressão maior a taxa de crescimento das bactérias.
- b) sinalizam que a pressão *in-situ* é essencial para o desenvolvimento fisiológico de determinados microrganismos.
- c) demonstraram que a pressão na superfície do mar é a mais adequada para os microrganismos.
- d) apontam dados divergentes sobre o fenômeno da pressão nos microrganismos.

4. Leia os enunciados abaixo.

I – A alta pressão ocasiona uma mudança na fisiologia dos microrganismos.

II - Existe um grupo de microrganismos que pode crescer em um ambiente com alta pressão, mas que prefere a pressão atmosférica para o seu desenvolvimento.

III – Os microrganismos barófilos crescem de maneira ideal em um ambiente com alta pressão.

Está(ão) correto(s)

- a) Somente o I.
- b) Somente I e II.
- c) Somente II e III.
- d) I, II e III.

5. Turley *et al.* sugerem que

- a) um dos fatores que controla o funcionamento das comunidades de bactérias no fundo do mar é a oferta reduzida de nutrientes.
- b) as técnicas baseadas em ácido nucléico permitem uma descrição apurada da composição das comunidades bacterianas no fundo do mar.
- c) o local geográfico é fator determinante para a composição das comunidades bacterianas.
- d) os estudos sobre as comunidades do fundo do mar não abrangem em grande parte as bactérias.

6. Qual é a dificuldade apontada pelo autor com relação às condições necessárias para o funcionamento das amostras isoladas?

- a) A necessidade de uma alimentação exclusiva.
- b) A rápida adaptação metabólica e fisiológica das amostras.
- c) A reprodução ideal do ambiente natural.
- d) A condição de superioridade das amostras com relação ao resto da comunidade.

7. A microbiologia clássica

- a) aprofunda os seus estudos unicamente nas especificidades fisiológicas dos microrganismos.
- b) criou um amostra padrão de microrganismos através de métodos seletivos.
- c) utiliza métodos específicos com o objetivo de conseguir amostras isoladas para aprofundar os estudos.
- d) seleciona no ambiente natural os microrganismos mais aptos para serem estudados.

8. Assinale a alternativa que apresente a metodologia do trabalho.

- a) “(...) we have incubated samples of deep-ocean water (3170 m) from the Rockall Trough area (North-East Atlantic) at *in-situ* temperature (4 °C) and at atmospheric and *in-situ* pressure (...) (linhas 75-77)
- b) “(...) successful classical enrichment requires an environment of nutrient excess, whereas unpolluted environments are typically nutrient-limited.” (linhas 73-75)
- c) “(...) components of the bacterial community which are most suited to the incubation conditions (“fitter” components) will grow faster than other “less fit” members and will therefore form a larger proportion of the post-incubation community.” (linhas 80-82)
- d) “(...) we can then attempt to determine their origin and role in the deep-sea bacterial community. (linhas 83-84)

9. O termo ***which*** (linha 23) faz referência a

- a) *pressure*
- b) *water*
- c) *ocean*
- d) *microorganisms*

10. Assinale a alternativa que **NÃO** apresenta sentido de possibilidade.

- a) “(...) yet remains one of the least studied and understood environments largely due to the difficulties surrounding its exploration.” (linhas 3-5)
- b) “Marine bacteria may be divided into two groups depending on their response to nutrient supply” (linhas 12-13)
- c) “(...) microorganisms which can function in the deep ocean must do so at pressures considerably higher than that at the sea surface(...)” (linhas 23-24)
- d) “(...) it is doubtful, in many cases, that the isolates could perform a significant role in the environment from which they were derived.” (linhas 71 – 73)

11. No trecho “***For example, successful classical enrichment requires an environment of nutrient excess, whereas unpolluted environments are typically nutrient-limited***” (linhas 73-75), o autor estabelece um/uma

- a) afirmação.
- b) negação.
- c) contraste.
- d) indagação.

## **TEXTO:**

### **An investigation of the physiology and potential role of components of the deep ocean bacterial community by enrichments carried out under minimal environmental change**

Simon T. Egan, David M. McCarthy, John W. Patching, Gerard T.A. Fleming  
Disponível em: [www.sciencedirect.com](http://www.sciencedirect.com)

The deep-sea is the largest ecosystem on the planet and supports some of the highest levels of diversity on Earth (Etter and Mullineaux, 2001, Snelgrove and Smith, 2002, Stuart *et al.*, 2003, Danovaro *et al.*, 2010 and Ramirez-Llodra *et al.*, 2010), yet remains one of the least studied and understood environments largely due to the difficulties surrounding its exploration. Deep-sea bacteria play a significant role in the recycling of organic matter and are thought to be responsible for approximately half of the global net mineralisation of organic matter in marine ecosystems (Ogawa *et al.*, 2001 and Yokokawa and Nagata, 2010). The aphotic zone of the water column (>~500m depth) is in permanent darkness and thus contains an allochthonous ecosystem which is mainly driven by the deposition of organic matter from the euphotic zone (Steinberg *et al.*, 2008). It is estimated that only 1–3% of surface primary production reaches the abyssal benthos (Deuser, 1986). Marine bacteria may be divided into two groups depending on their response to nutrient supply. The ‘generalists’, which are metabolically flexible, can respond quickly to changes in the quantity and type of nutrient input (Church, 2009). These may be indigenous to the deep-sea or surface-derived in that they settle to depths with sedimenting particulates (Fellows *et al.*, 1981, Fuhrman and Azam, 1983, Tamburini *et al.*, 2006 and Grossart and Gust, 2009). The ‘specialists’ are more specific in their nutrient requirements and are slower to adapt to changes in nutrient input (Crump *et al.*, 2003 and Langenheder *et al.*, 2005). These ‘specialists’ may include microorganisms that can grow preferentially at high pressures and in an oligotrophic environment.

Hydrostatic pressure in the marine water column increases by approximately 0.1 MPa per 10 m depth, so that microorganisms **which** can function in the deep ocean must do so at pressures considerably higher than that at the sea surface: for example, the *in-situ* pressure acting on the microorganisms in the water sample used in this study (recovered from a depth of 3100 m) was *ca.* 31 MPa. Pressure vessels, maintaining *in-situ* pressures have been used to study the physiology, growth or activity of microorganisms taken from the deep ocean (Yayanos *et al.*, 1979, Tabor *et al.*, 1981, Jannasch and Wirsen, 1982, Jannasch and Wirsen, 1984, Kato *et al.*, 1995, Kato *et al.*, 1998, Patching and Eardly, 1997 and Bianchi *et al.*, 1999). In some reports it was shown that growth rates (Jannasch and Wirsen, 1984) or enzyme activities (Tamburini *et al.*, 2006) of surface-derived microorganisms decreased with increasing pressure. Others have argued that the deep-ocean autochthonous microorganisms are more active (as measured by extracellular enzyme activity) under *in-situ* pressures than at atmospheric pressure (Nagata *et al.*, 2010).

A microorganism can be assigned to one of several groups depending on its response to elevated pressure. Those which can grow at pressures encountered in the deep-ocean may be defined as piezotolerant if they grow optimally at atmospheric pressure or piezophilic (barophilic) if they require a high pressure for optimal growth (Yayanos, 1998 and Fang *et al.*, 2010). An organism which grows optimally at atmospheric pressure but whose growth is inhibited by moderate pressure (less than that encountered in the deep ocean) may be referred to as piezosensitive. Pressures in excess

of that required to inhibit growth do not normally cause gross disruption of prokaryotic cell structure (Oger and Jebbar, 2010) so that sea-surface derived piezosensitive bacteria  
45 in deep ocean samples may be able to grow if the sample is held at atmospheric pressure. Surface-derived microorganisms can respond to increasing hydrostatic pressure through changes in their community structure, cell shape and a decrease in their abundance (Grossart and Gust, 2009).

Reports describing bacterial community structures in the deep-sea are generally  
50 DNA/RNA based studies and avoid cultivation of bacteria (Fuhrman, 2009 and Brown et al., 2009). Ocean depth, and to a lesser extent geographical location (Agogue *et al.*, 2011) are known to play an important part in determining the composition of bacterial communities (Acinas *et al.*, 1997, Murray et al., 1998, Riemann et al., 1999 and Moeseneder *et al.*, 2001). Others have suggested that the diminished supply of  
55 nutrients is an important limiting factor controlling the functioning of deep-sea bacterial communities (Turley *et al.*, 1995). Nucleic acid based techniques can provide a description of community composition which is comprehensive and relatively free from bias. Their major limitation is a failure to provide sufficient information on the physiology, metabolism, activity and (in the case of DNA based methods) viability of  
60 community components or their role in ecosystem functioning. Attempts have been to overcome these limitations by the use of techniques such as MAR-FISH (Alonso and Pernthaler, 2006), but such techniques focus on the activity of specific community components rather than providing a synoptic view.

Classical microbiology has used enrichment and plating-out to obtain isolates of  
65 a specific physiological or nutritional type for further studies. Liquid cultures are used where conditions are set to encourage clones of interest to out-compete other community members. These “fitter” strains eventually form the bulk of the community and plating out under selective conditions is then used to isolate the strains of interest. Studies on these isolates have provided valuable information on their metabolism and  
70 physiology, but the conditions necessary to achieve successful enrichment are so far away from those found in the natural source of the initial inoculum that it is doubtful, in many cases, that the isolates could perform a significant role in the environment from which they were derived. For example, successful classical enrichment requires an environment of nutrient excess, whereas unpolluted environments are typically nutrient-  
75 limited. In this study we have incubated samples of deep-ocean water (3170 m) from the Rockall Trough area (North-East Atlantic) at *in-situ* temperature (4 °C) and at atmospheric and *in-situ* pressure (31 MPa), and in the absence and presence of added nutrients and observed the Bacterial community structure before and after incubation by means of a nucleic acid based technique (DGGE: Muyzer *et al.*, 1993). Our hypothesis  
80 is that components of the bacterial community which are most suited to the incubation conditions (“fitter” components) will grow faster than other “less fit” members and will therefore form a larger proportion of the post-incubation community. By comparing the fitness of components under the different incubation conditions we can then attempt to determine their origin and role in the deep-sea bacterial community.

Gabarito: 1-B, 2-B, 3-D, 4-C, 5-A, 6-C, 7-C, 8-A, 9-D, 10-A, 11-C

As questões abaixo se referem ao texto *Scientists Try New Strategy To Eradicate Dengue Fever*

1. Assinale a alternativa correta, de acordo com o que é afirmado no artigo.
  - a) O texto relata um programa de prevenção de dengue posto em prática no Reino Unido.
  - b) O Reino Unido patrocinou um programa para tratar pessoas infectadas pela dengue no Vietnã.
  - c) Austrália e Reino Unido patrocinaram a erradicação da dengue no Vietnã.
  - d) Austrália e Reino Unido patrocinaram um programa de redução dos riscos de contaminação por dengue.
  
2. Em relação ao que é dito no texto sobre a fundação australiana, qual das alternativas a seguir é correta?
  - a) Ela usou em sua pesquisa um tipo de crustáceo que se alimenta do vírus da dengue.
  - b) Ela pesquisou os hábitos alimentares do mosquito transmissor da dengue.
  - c) Ela pesquisou uma maneira de eliminar a larva do mosquito transmissor da dengue.
  - d) Ela comparou o comportamento de determinados crustáceos aos do mosquito transmissor da dengue.
  
3. Sobre o programa do qual trata o artigo, assinale a alternativa correta.
  - a) O estudo contou com uma etapa de conscientização da população.
  - b) Os responsáveis visitaram áreas de reprodução para eliminar os vetores da dengue.
  - c) Os responsáveis visitaram áreas de reprodução para eliminar focos de água parada.
  - d) O estudo concluiu que todos os focos de água parada no Vietnã serviram como áreas de reprodução para os vetores da dengue.
  
4. Segundo Kay, qual o motivo da importância de se prevenir a dengue?
  - a) A quantidade de pessoas que vinham sendo infectadas por ano.
  - b) O fato dos tratamentos existentes serem inadequados.
  - c) A crescente quantidade de áreas de reprodução do vetor no Vietnã.
  - d) A rápida reprodução e disseminação do vetor da dengue.
  
5. Quanto aos métodos atuais para controlar a dengue, o que é correto afirmar, segundo o artigo?
  - a) Recomenda-se o uso de inseticidas para eliminar o vetor da doença.
  - b) O uso de inseticidas é sempre desaconselhável.
  - c) Recomenda-se a interrupção do ciclo reprodutor dos mosquitos.
  - d) Ambos os métodos mencionados são inadequados a longo prazo.

6. Sobre as conclusões às quais chegou o Dr. Paul Epstein, pode-se dizer que:
- a) ele alertou para o possível aumento de casos de doenças como a cólera por conta das mudanças climáticas.
  - b) ele registrou um aumento dos casos de dengue por conta do aquecimento global.
  - c) ele detectou, em 1998, que havia mais vítimas da doença por conta do aquecimento global.
  - d) ele citou o aquecimento global como única causa da necessidade crescente de prevenção da doença.

### SCIENTISTS TRY NEW STRATEGY TO ERADICATE DENGUE FEVER

A new programme, sponsored by the governments of the United Kingdom and Australia, has been successful in reducing the risk of dengue fever in parts of Vietnam. The Australian Foundation for the Peoples of Asia and the Pacific, an aid organisation, recently completed a three-year programme using the mesocyclops crustacean, which is about 1 mm long and devours the larvae of the mosquitos that carry dengue fever.

Researchers say that the results look promising. The programme appears to have rid the northern Vietnamese province of Phan Boi of the larvae, and there was a 75% success rate in other provinces.

The non-governmental Queensland Institute of Medical Research and the Vietnam National Institute of Hygiene and Epidemiology were the organisations involved in coordinating drops of the organism into mosquito breeding areas such as wells, water tanks, and household water containers.

A community education and clean-up programme was also put in place to educate residents about the importance of discarding unused buckets and other containers that could hold stagnant water and which could become potential breeding grounds for disease.

Professor Brian Kay, from the Queensland institute's malaria and arbovirus unit, said that dengue is usually transmitted by the *Aedes aegypti* mosquito, and that more than 170 000 Vietnamese were infected each year. He said that prevention of the disease is important because existing treatments are inadequate.

Current procedures to control the disease usually include interrupting the breeding cycles of the mosquitos as well as the use of insecticides. Both are inadequate in the long term. There is no vaccine.

Global warming is also increasing the necessity for prevention, according to World Wildlife Fund spokesman Dr Paul Epstein, from Harvard Medical School. He warned in a November 1998 report on climate change, which was submitted to the United Nations, that the warming of the earth will cause a rise in infectious diseases including dengue, malaria, cholera, yellow fever, and encephalitis.

Dengue is present in tropical and subtropical areas, including south east Asia and northern parts of South America, particularly Brazil. It has also been detected in north Australia and Argentina.

Gabarito: 1- D, 2- C, 3- A, 4- B, 5- D, 6- A.

As questões abaixo se referem ao texto *Antibiotic Resistance: Blame It On Lifesaving Malaria Drug?*

1. De acordo com o texto, o estudo

- a) demonstra que o uso em excesso do antibiótico que previne e trata a malária deixou de surtir efeito.
- b) investiga, de forma inédita, a resistência em indivíduos que nunca haviam sido expostos à bactéria E. Coli.
- c) revela que cepas resistentes da bactéria E. Coli foram encontradas nos tratos digestivos de guianenses, contra a qual já haviam sido medicados.
- d) relata a resistência a antibióticos desenvolvida por pacientes previamente tratados com a cloroquina, fármaco que combate a malária.

2. De acordo com Andrew Simor,

- a) quinze anos atrás, a resistência à ciprofloxacina era um problema em hospitais.
- b) apenas 30% dos pacientes tratados com a ciprofloxacina combateram a bactéria.
- c) há mais de uma década, a bactéria E. Coli era sensível à ciprofloxacina.
- d) há dez anos, a resistência à ciprofloxacina era comum em comunidades remotas.

3. Segundo Michael Silverman,

- a) até o presente estudo, pensava-se que a resistência a antibióticos ocorreria somente devido ao uso recorrente do mesmo.
- b) casos de E. Coli sensível à ciprofloxacina ocorreram com maior frequência nas vilas guianenses do que nos hospitais americanos.
- c) a resistência à ciprofloxacina foi relatada apenas em locais onde esse antibiótico já havia sido prescrito.
- d) nos Estados Unidos, uma em cada duas pessoas desenvolve resistência aos antibióticos de escolha para E. Coli.

4. Leia as afirmações abaixo:

- I. Para que a prevenção contra a malária seja eficaz, a cloroquina deve ser ingerida diariamente pelos aldeões.
- II. Tanto a ciprofloxacina quanto a cloroquina foram sintetizadas a partir das quinolonas, no início da década de 60.
- III. Para que se desenvolva a resistência, é necessário que os dois antibióticos, a ciprofloxacina e a cloroquina, sejam ingeridos nas mesmas quantidades.

Estão corretas:

- a) I e II.
- b) II e III.
- c) Apenas a II.
- d) Apenas a III.



5. Este estudo:

- a) demonstra que o problema cada vez maior de resistência a antibióticos pode ser aclarado pelas descobertas dos cientistas.
- b) comprova que o uso mundial da ciprofloxacina é mais preocupante do que o uso de drogas administradas para combater a malária.
- c) revela que os Centros de Controle e Prevenção de Doenças calculam que cerca de 500 milhões de pessoas morrerão, devido à malária, nos países periféricos.
- d) indica que é possível que a ciprofloxacina seja responsável pela tolerância a antibióticos nos países periféricos.

6. A pesquisa conclui que:

- a) os tratamentos voltados para doenças causadas por agentes patogênicos diferentes entre si devem ser desempenhados de forma independente.
- b) meios alternativos de prevenção ao mosquito transmissor da malária, como o uso de redes protetoras com inseticida, serão necessários.
- c) desenvolvimento de uma vacina eficaz é a única solução para o problema da resistência a antibióticos.
- d) os tratamentos contra os diferentes agentes patogênicos poderão ser substituídos uns pelos outros sem que haja o desenvolvimento de resistência.

7. Qual dos trechos abaixo se trata do objetivo do estudo?

- a) (...) During a three-year study, the researchers monitored the levels of antibiotic-resistant E. coli in patients at their clinics.
- b) (...) This is the first study to show that resistance can emerge in individuals never exposed to the antibiotic.
- c) (...) to the increased use of chloroquine—a drug widely prescribed to prevent and control malaria —after a large outbreak of the disease.
- d) (...) They found that rates of resistance were over three times higher in February 2003 than they were just a year earlier.

8. A expressão *in fact* no trecho *In fact, he says, ciprofloxacin-resistant E. Coli were even more widespread in remote Guyanese villages than in U.S. intensive care units "where every second person is on antibiotics,* introduz a noção de

- a) Reiteração.
- b) Concessão.
- c) Negação.
- d) Contraste.

9. A palavra **which** (linha 16) se refere à palavra

- a) e.coli.
- b) ciprofloxacina.
- c) drug.
- d) bacteria.

## ANTIBIOTIC RESISTANCE: BLAME IT ON LIFESAVING MALARIA DRUG?

Disponível em: Scientific American: July 21, 2008

A new study shows that overuse of a drug used to prevent and treat malaria may be contributing to growing antibiotic resistance. Researchers report in the journal PLoS ONE that *Escherichia coli* bacteria resistant to the antibiotic ciprofloxacin were detected in the digestive tracts of villagers from remote rainforest communities in Guyana who had been given the drug chloroquine to prevent and treat malaria, a potentially fatal disease spread by mosquitoes. This is the first study to show that resistance can emerge in individuals never exposed to the antibiotic, which is used throughout the world to treat bacterial infections, including pneumonia, urinary tract infections and sexually transmitted diseases.

"Ten to 15 years ago, resistance to ciprofloxacin was rare. [Now], outside of remote populations, cipro resistance in hospitals and the community at large is becoming a problem," says Andrew Simor, a senior scientist at the Sunnybrook Health Sciences Center at the University of Toronto, who was not involved in the study. "E. coli is one of the most common causes of infections in humans. A decade ago it was nearly universally susceptible to ciprofloxacin." Today, he says, as many as 30 percent of hospital patients tested have E. coli that failed to respond to ciprofloxacin, **which** is the drug of choice for treating these bacteria.

Drug-resistant bacteria are known to arise from the overuse of antibiotics, which is why researchers were surprised to discover that they can develop in areas that do not have access to ciprofloxacin, says study co-author Michael Silverman, an infectious disease specialist at Lakeridge Health Network in Ontario. **In fact**, he says, ciprofloxacin-resistant E. coli were even more widespread in remote Guyanese villages than in U.S. intensive care units "where every second person is on antibiotics."

During a three-year study, the researchers monitored the levels of antibiotic-resistant E. coli in patients at their clinics. They found that rates of resistance were over three times higher in February 2003 than they were just a year earlier, Silverman says. The jump corresponded to the increased use of chloroquine—a drug widely prescribed to prevent and control malaria —after a large outbreak of the disease (which causes high fevers, chills, nausea and headaches) in late 2002.

Chloroquine, taken daily by some villagers, is a close chemical cousin of ciprofloxacin. In the early 1960s, the creation of the antibiotic class (quinolones), which includes ciprofloxacin, was based on the by-products of chloroquine synthesis. In laboratory experiments, the team confirmed that chloroquine concentrations similar to those seen in the human intestinal tract prompted E. coli ciprofloxacin resistance.

These findings may have far-reaching implications for the escalating problem of antibiotic resistance. The worldwide use of ciprofloxacin pales in comparison with the use of drugs to counter malaria, which the U.S. Centers for Disease Control and Prevention estimates strikes 350 million to 500 million people (mostly in Africa, Asia, and Central and South America) annually. "It is very possible that the antimalarial drugs may be inducing a large amount of the antibiotic resistance that occurs in the tropics," Silverman says.



**A NURSE-MANAGED SMOKING CESSATION PROGRAM FOR HOSPITALIZED SMOKERS**

OBJECTIVES: This study \_\_\_\_\_ (1) a nurse-managed smoking cessation program for smokers hospitalized for a variety of conditions. METHODS: Hospitalized patients who smoked \_\_\_\_\_ (2) to hospitalization and who were motivated to quit (n = 660) were randomized to intervention or usual-care groups and followed for the next year. The intervention included a meeting with the nurse-case manager; the use of a videotape, workbook, relaxation audiotape, and nicotine replacement therapy; and nurse-initiated phone contacts after discharge. RESULTS: The 12-month confirmed cessation rates were 21% and 31% for, respectively, the usual-care and intervention groups (odds ratio = 1.7; 95% confidence interval = 1.1, 2.3). CONCLUSIONS: A nurse-managed smoking cessation intervention \_\_\_\_\_ (3) significantly increase cessation rates for hospitalized patients.

American Journal of Public Health, 1996 - pubmedcentral.nih.gov

A. Escolha, a cada questão, a palavra mais adequada para completar as lacunas do texto.

1. \_\_\_\_\_ (linha 01)

- a) evaluated
- b) is evaluated
- c) evaluating
- d) has evaluate

3. \_\_\_\_\_ (linha 10)

- a) has to
- b) has not
- c) must not
- d) can

2. \_\_\_\_\_ (linha 03)

- a) due
- b) prior
- c) after
- d) as

B. Traduza o trecho abaixo, retirado do **Abstract**.

The intervention included a meeting with the nurse-case manager; the use of a videotape, workbook, relaxation audiotape, and nicotine replacement therapy; and nurse-initiated phone contacts after discharge (linhas 05 a 07).

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**EVOLUTIONARY AND BIOMEDICAL INSIGHTS FROM THE RHESUS MACAQUE GENOME**

Disponível em: <http://www.ncbi.nlm.nih.gov/pubmed/17431167>

**Abstract**

The rhesus macaque (*Macaca mulatta*) is an abundant primate species that diverged from the ancestors of *Homo sapiens* about 25 million years ago. Because **they** are genetically and physiologically similar to humans, rhesus monkeys are the most widely used nonhuman primate in basic and applied biomedical research. We determined the genome sequence of an Indian-origin *Macaca mulatta* female and compared the data with chimpanzees and humans to reveal the structure of ancestral primate genomes and to identify evidence for positive selection and lineage-specific expansions and contractions of gene families. A comparison of sequences from individual animals was used to investigate **their** underlying genetic diversity. The complete description of the macaque genome blueprint enhances the utility of this animal model for biomedical research and improves our understanding of the basic biology of the species.

A. Descreva EM PORTUGUÊS a metodologia empregada no estudo.

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B. Traduza a frase abaixo, retirada do *abstract*:

The complete description of the macaque genome blueprint enhances the utility of this animal model for biomedical research and improves our understanding of the basic biology of the species. (linhas 09 a 11)

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C. A que se referem as palavras **they** (linha. 2) e **their** (linha 9)?

They \_\_\_\_\_

Their \_\_\_\_\_

D. Resuma EM UMA FRASE EM INGLÊS a definição da microbiologia segundo o **Texto II** da Parte I. **(2,0)**

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