★★★ ＜第 23 回知的財産翻訳検定試験【第 11 回英文和訳】＞ ★★★
≪１級課題 -バイオテクノロジー-≫

【解答にあたっての注意】
１．問題の指示により和訳してください。
２．解答語数に特に制限はありません。適切な箇所で改行してください。
３．課題文に段落番号がある場合、これを訳文に記載してください。
４.課題は４題あります。それぞれの課題の指示に従い、４題すべて解答してください。

問１．背景技術
STARTから***END***までを和訳してください。

START

Honey bees are required for the effective pollination of crops and are therefore critical to world agriculture. Honey bees also produce economically important products, including honey and bees wax. Honey bees are susceptible to a number of parasites and pathogens, including the ectoparasitic mite, *Varroa* destructor. *Varroa* mites parasitize pupae and adult bees and reproduce in the pupal brood cells. The mites use their mouths to puncture the exoskeleton and feed on the bee's hemolymph. These wound sites in the exoskeleton harbor bacterial infections, such as *Melissococcus pluton*. In addition, to their parasitic effects, *Varroa* mites are suspected to act as vectors for a number of honey bee pathogens, and may weaken the immune systems of their hosts, leaving them vulnerable to infections.

Maintaining a supply of strong honey bee colonies available for pollination is essential for the sustained production of farm crops worth more than $14 billion to U.S. agriculture. Current methods of treating *Varroa* infestations are proving to be ineffective as the mites develop resistance to existing miticides.

END

問２．実施形態
STARTから***END***までを和訳してください。

START

The term "proenzyme" or "zymogen" as used herein refers to an inactive enzyme

precursor. A zymogen requires a biochemical change (such as a hydrolysis reaction revealing the active site, or changing the configuration to reveal the active site) for it to become an active enzyme. The biochemical change usually occurs in a lysosome where a specific part of the precursor enzyme is cleaved in order to activate it. The amino acid chain that is released upon activation is called the activation peptide.

The term "substitution" is used herein to refer to a situation in which a base or bases are exchanged for another base or bases in a DNA sequence. Substitutions may be synonymous substitutions or nonsynonymous substitutions. As used herein, "synonymous substitutions" refer to substitutions of one base for another in an exon of a gene coding for a protein, such that the amino acid sequence produced is not modified. The term "nonsynonymous substitutions" as used herein refer to substitutions of one base for another in an exon of a gene coding for a protein, such that the amino acid sequence produced is modified.

END

問３．実施例
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START

The three targeted ES clones, designated number 264, 272, and 408, were thawed and injected into C57BL/6J blastocysts. Injected blastocysts were transferred into the uteri of pseudopregnant females to generate chimeric mice representing a mixture of cells derived from the input ES cells and the host blastocyst. The extent of ES cell contribution to the chimera can be visually estimated by the amount of agouti coat coloration, derived from the ES cell line, on the black C57BL/6J background. Clones 272 and 408 produced only low percentage chimeras (i.e. low percentage of agouti pigmentation) but clone 264 produced high percentage male chimeras. These chimeras were bred with C57BL/6J females and agouti offspring were generated, indicative of germline transmission of the ES cell genome. Screening for the targeted mu gene was carried out by Southern blot analysis of BglI digested DNA from tail biopsies. Approximately 50% of the agouti offspring showed a hybridizing BglI band of 7.7 kb in addition to the wild type band of 15.7 kb, demonstrating a germline transmission of the targeted mu gene.

END

問４．請求項
STARTから***END***までを和訳してください。
クレーム１０及び１７を訳出してください。必要であれば、クレーム１を参照してください。クレーム１の訳出は必要ありません。なお、請求項は抜粋されているため請求項番号は連続しておりません。

1. A method for detecting activation of endothelial cells in a test sample, comprising:
measuring the level of a protein complex in the endothelial cells in a test sample, wherein the protein complex is formed between a first cellular component and a second cellular component that are cellular components in an angiogenesis signaling pathway; and
wherein a difference in the level of the protein complex relative to the level of the protein complex in a reference sample detects activation of endothelial cells in the test sample.

START
10. The method of claim 1, wherein the step of measuring the level of the protein complex in the endothelial cells comprises:
mixing (i) the test sample; (ii) a cleaving probe, which is capable of binding the first cellular component and has a cleavage-inducing moiety with an effective proximity; and (iii) one or more binding compounds, wherein each of the binding compounds is capable of binding the first or second cellular component and wherein each of the one or more binding compounds has one or more molecular tags each attached thereto by a cleavable linkage; wherein cleavage of the cleavable linkage(s) within the effective proximity of the cleaving-inducing moiety of the cleaving probe releases the molecular tag(s), wherein detecting the released molecular tag(s) provides a measurement of the protein complex.

17. The method of claim 10, further comprising measuring the level of an effector protein in the angiogenesis signaling pathway that has a post-translational modification site in the endothelial cells in the test sample.

END