Claims

[Claim 1]

A method for determining a UV sensitivity of skin to erythema formation in a test subject, the method comprising: irradiating a skin of a test subject with ultraviolet light, measuring the amount of biophotons produced by the skin after the irradiation, and determining the UV sensitivity of the skin to erythema formation using the amount of biophotons measured during a specified period after the irradiation, wherein the specified period is within a period of from 1 to 3 minutes after the irradiation.

[Claim 2]

The method according to claim 1, wherein the specific period has a length of from 30 seconds to 2 minutes.

[Claim 3]

The method according to claim 1, wherein the specific period is 1 minute from 1 to 2 minutes after the UV irradiation, 1 minute from 2 to 3 minutes after the UV irradiation, or 2 minutes from 1 to 3 minutes after the UV irradiation.

[Claim 4]

The method according to claim 1, wherein the UV irradiation is irradiation with mixed ultraviolet light of A radiation and B radiation.

[Claim 5]

The method according to claim 1, wherein the UV irradiation is performed at a UV irradiation dose of from 300 to 8000 mJ/cm^2.

[Claim 6]

The method according to claim 1, wherein the amount of biophotons is calculated based on the luminescence intensity of biophotons.

[Claim 7]

The method according to claim 1, wherein the specific period has a length of from 50 seconds to 1 minute and 30 seconds.

[Claim 8]

A method for evaluating or searching for a UV erythema formation sensitivity-reducing agent, the method comprising: administering a test substance to a subject or contacting the test substance with skin of the subject; and irradiating the skin or skin cells of the subject with ultraviolet light, measuring the amount of biophotons produced by the skin after irradiation, comparing the amount of biophotons produced during a specified period to a control based biophotons produced during the specified period after irradiation of the skin or skin cells, and determining that the test substance is a UV erythema formation sensitivity-reducing agent when the amount of biophotons after the administering or contacting the test substance is lower than the amount of biophotons produced from the control, wherein the

specified period is within a period of from 1 to 3 minutes after the irradiation.

[Claim 9]

The method according to claim 8, wherein the subject is a human, cultured epidermal cells, a 3D skin model, or a cultured skin tissue.

[Claim 10]

The method according to claim 9, wherein the contacting the test substance with the cultured epidermal cells, the 3D skin model, or the cultured skin tissue is performed for a contact period of from 1 hour to 72 hours, at a contact frequency of at least once during the contact period.

[Claim 11]

The method according to claim 8, wherein the administering the test substance to the subject or the contacting the test substance with the subject is performed at a specific frequency of at least once within a specific administration or contact period provided before the UV irradiation.

[Claim 12]

The method according to claim 8, wherein the administering the test substance to the subject is performed during an administration period of from one day to 6 months, at an administration frequency of at least once per day.

[Claim 13]

The method according to claim 8, wherein the amounts of biophotons are compared between a higher-concentration test substance-administered group and a lower-concentration test substance-administered group; between a test substance-administered group and a placebo-administered group; between a test substance-administered group and a non-administered group; or between before and after administration of each test substance.