

Title (en)

METHODS AND DEVICE FOR NON-INVASIVE ANALYTE MEASUREMENT

Title (de)

VERFAHREN UND VORRICHTUNG FÜR DIE NICHTINVASIVE MESSUNG VON ANALYTEN

Title (fr)

METHODES ET DISPOSITIFS PERMETTANT DE MESURER UNE SUBSTANCE A ANALYSER DE FACON NON INVASIVE

Publication

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Application

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Abstract (en)

[origin: WO2004099824A2] The present invention is related to non-invasive methods and instruments to detect the level of analyte concentrations in the tissue of a subject. The spectra of mid-infrared radiation emitted from a subject's body are altered corresponding to the concentration of various compounds within the radiating tissue. In one aspect of the invention, an instrument floods a body surface of the subject, such as the subject's eye, with radiation in the mid-infrared range and measures analyte concentrations based on mid-infrared radiation reflected back to the instrument. In another aspect of the invention, an instrument measures the level of mid-infrared radiation from the subject's body surface, such as the eye, and determines a specific analyte's concentration based on said analyte's distinctive mid-infrared radiation signature. A preferred aspect of the invention is related to non-invasive methods and instruments to detect the level of analyte concentrations in the tissue of a subject by measuring electromagnetic radiation signatures from the subject's conjunctiva. The spectra of mid-infrared radiation emitted from a subject's body are altered corresponding to the concentration of various compounds within the radiating tissue. In one aspect of the preferred embodiment of the invention, an instrument floods the conjunctiva of the subject with electromagnetic radiation in the mid-infrared range and measures analyte concentrations based on mid-infrared radiation reflected back to the instrument.

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