Claims

1. A method for analysing a sample obtained from a subject, comprising the steps of:

a) providing a spectrum or spectra produced by spectrally scanning the sample using infrared spectroscopy having a macroscopic spatial resolution;

b) identifying one or more target tissue types in the sample in dependence on reference spectra produced by such target tissue types; and

c) determining the presence or absence of a specified disease and/or disease state depending on whether one or more target tissue types are identified in the sample.

2. A method according to claim 1, wherein the spectrum or spectra is from an ATR-FTIR spectrometer.

3. A method according to claim 1 or claim 2, wherein the sample is a sample of epithelial tissue.

4. A method according to claim 3, wherein the epithelial tissue is from the esophagus.

5. A method according to any preceding claim, wherein the method includes the step of obtaining the spectrum or spectra.

6. A method according to any preceding claim, wherein the target tissue types include healthy and non-healthy tissue types, tissues with different cell types and/or tissues associated with a disease state.

7. A method according to any preceding claim, wherein the method also comprises the step of shifting or calibrating the spectra to take into account the hydration of the sample or any drug or other pharmaceutical agent or any other agent that may have been administered to the subject prior to sampling.

8. A method for diagnosing a disease state in a subject, comprising analysing a sample from the subject using the method of any of claims 1 to 7, wherein the presence of non-healthy tissue types having a particular disease state is indicative of the subject having the disease state.

9. A method according to any preceding claim, wherein the macroscopic spatial resolution is 0.5 mm or more.

10. A method according to any preceding claim, wherein the spectroscopy technique is single element ATR-FTIR spectroscopy.

11. A method according to any preceding claim, wherein the sample is a biopsy and the spectrum or spectra are from either side of the biopsy.

12. A method according to any preceding claim, wherein the reference spectra are produced using infrared spectroscopy techniques having microscopic resolution.

13. A method according to any preceding claim, wherein the target tissue types include a precancerous tissue type.

14. A method according to any preceding claim, wherein the target tissue types include a dysplastic tissue type.

15. A method according to any preceding claim, wherein the target tissue types include an epithelial tissue type.