US007867720B2

(12) **United States Patent**
Dodds

(10) **Patent No.: US 7,867,720 B2**
(45) **Date of Patent: *Jan. 11, 2011**

(54) **FOOD SENSITIVITY TESTING IN ANIMALS**

(76) Inventor: **W. Jean Dodds**, 938 Stanford St., Santa Monica, CA (US) 90403

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/465,603**

(22) Filed: **May 13, 2009**

(65) **Prior Publication Data**

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Related U.S. Application Data

(60) Provisional application No. 61/147,443, filed on Jan. 26, 2009.

(51) **Int. Cl.**
G01N 33/53 (2006.01)

(52) **U.S. Cl.** **435/7.1**; 435/7.92; 436/513; 436/811

(58) **Field of Classification Search** ..... None
See application file for complete search history.

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Primary Examiner—Melanie Yu
Assistant Examiner—Gary W Counts
(74) *Attorney, Agent, or Firm*—Greenberg Traurig LLP

(57) **ABSTRACT**

Diagnosing an immunologic food sensitivity or intolerance in companion animals comprises collecting a sample; screening the sample to detect the presence of an antibody to a particular food ingredient or composition. The sample can be serum, saliva or other bodily fluid to detect the presence of an IgA, IgM or IgG antibody or immune complex to a particular food ingredient or composition. The food ingredient for which sensitivity or intolerance is tested is contained in at least one of a preprocessed food composition, balanced diet or recipe. Offending ingredient(s) in a preprocessed food composition, balanced diet or recipe is determined. An assessment is made as to whether it is possible to use a different preprocessed food composition, balanced diet or recipe, or whether a special diet needs to be formulated without the offending ingredient(s).

15 Claims, No Drawings

US007873482B2

(12) **United States Patent**
Stefanon et al.

(10) **Patent No.: US 7,873,482 B2**
(45) **Date of Patent: Jan. 18, 2011**

(54) **DIAGNOSTIC SYSTEM FOR SELECTING NUTRITION AND PHARMACOLOGICAL PRODUCTS FOR ANIMALS**

(76) Inventors: **Bruno Stefanon**, via Zilli, 51/A/3, Martignacco (IT) 33035; **W. Jean Dodds**, 938 Stanford St., Santa Monica, CA (US) 90403

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 158 days.

(21) Appl. No.: **12/316,824**

(22) Filed: **Dec. 16, 2008**

(65) **Prior Publication Data**

US 2010/0153016 A1 Jun. 17, 2010

(51) **Int. Cl.**
G06F 19/00 (2006.01)

(52) **U.S. Cl.** **702/19**

(58) **Field of Classification Search** 702/19, 702/23, 182–185
See application file for complete search history.

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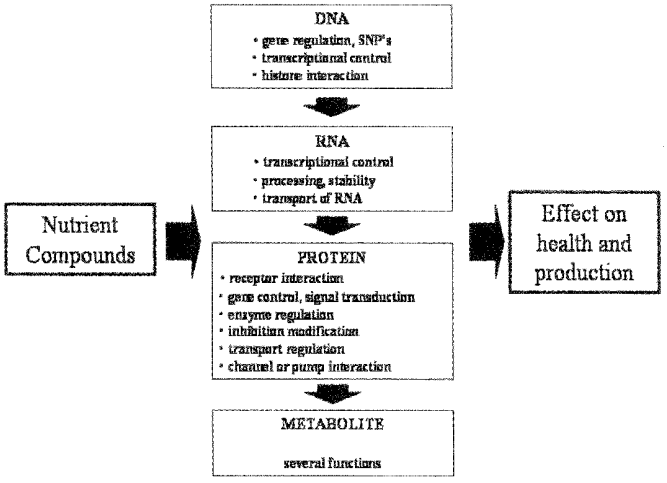
Primary Examiner—Edward Raymond
(74) *Attorney, Agent, or Firm*—Greenberg Traurig, LLP

(57) **ABSTRACT**

An analysis of the profile of a non-human animal comprises: a) providing a genotypic database to the species of the non-human animal subject or a selected group of the species; b) obtaining animal data; c) correlating the database of a) with the data of b) to determine a relationship between the database of a) and the data of b); c) determining the profile of the animal based on the correlating step; and d) determining a genetic profile based on the molecular dietary signature, the molecular dietary signature being a variation of expression of a set of genes which may differ for the genotype of each animal or a group of animals Nutrition and pharmalogical assessments are made. Reporting the determination is by the Internet, and payment for the report is obtained through the Internet.

24 Claims, 23 Drawing Sheets



US008450072B2

(12) **United States Patent**
Dodds

(10) **Patent No.: US 8,450,072 B2**
(45) **Date of Patent: *May 28, 2013**

(54) **MULTI-STAGE NUTRIGENOMIC DIAGNOSTIC FOOD SENSITIVITY TESTING IN ANIMALS**

(76) Inventor: **W. Jean Dodds**, Santa Monica, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/960,031**

(22) Filed: **Dec. 3, 2010**

(65) **Prior Publication Data**

US 2011/0111415 A1 May 12, 2011

Related U.S. Application Data

(63) Continuation of application No. 12/995,037, filed as application No. PCT/US2010/020677 on Jan. 11, 2010, which is a continuation-in-part of application No. 12/545,041, filed on Aug. 20, 2009, now Pat. No. 7,892,763, and a continuation-in-part of application No. 12/465,603, filed on May 13, 2009, now Pat. No. 7,867,720.

(60) Provisional application No. 61/147,443, filed on Jan. 26, 2009.

(51) **Int. Cl.**
G01N 33/53 (2006.01)

(52) **U.S. Cl.**
CPC ***G01N 33/53*** (2013.01); *Y10S 436/811* (2013.01)
USPC **435/7.1**; 435/7.92; 436/513; 436/811

(58) **Field of Classification Search**
None
See application file for complete search history.

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Primary Examiner — Gary W Counts
(74) *Attorney, Agent, or Firm* — Greenberg Traurig, LLP

(57) **ABSTRACT**

A multi-stage method for diagnosing an immunologic food sensitivity or intolerance in a companion animal. Firstly a saliva or blood spot or other non-serum bodily fluid sample is collected. The screening the saliva or blood spot or other non-serum bodily fluid sample detects the presence of at least one of IgA or IgM antibody to a particular food ingredient or composition. An immunologic food sensitivity or intolerance based on the presence of the antibody is diagnosed. Secondly a blood sample is collected and serum from the sample is screened to detect the semi-quantitative or quantitative presence of at least one of an IgA, IgM or IgG antibody or immune complex to a particular food ingredient or composition. An immunologic food sensitivity or intolerance based on the presence of the antibody or immune complex is diagnosed. Thirdly, a biologically active nutrient in relation to the animal from a molecular dietary signature is determined. The molecular dietary signature for the animal is a variation of expression of a set of genes, proteins or metabolites which may differ for the genotype of each animal.

7 Claims, 2 Drawing Sheets

US008450074B2

(12) United States Patent
Dodds

(10) Patent No.: US 8,450,074 B2
(45) Date of Patent: *May 28, 2013

(54) **MULTI-STAGE NUTRIGENOMIC DIAGNOSTIC FOOD SENSITIVITY TESTING IN ANIMALS**

(76) Inventor: **W. Jean Dodds**, Santa Monica, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/995,037**

(22) PCT Filed: **Jan. 11, 2010**

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(2), (4) Date: **Nov. 29, 2010**

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PCT Pub. Date: **Jul. 29, 2010**

(65) **Prior Publication Data**

US 2011/0076701 A1 Mar. 31, 2011

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/545,041, filed on Aug. 20, 2009, now Pat. No. 7,892,763, and a continuation-in-part of application No. 12/465,603, filed on May 13, 2009, now Pat. No. 7,867,720.

(60) Provisional application No. 61/147,443, filed on Jan. 26, 2009.

(51) **Int. Cl.**
G01N 33/53 (2006.01)

(52) **U.S. Cl.**
CPC ***G01N 33/53*** (2013.01); *Y10S 436/811* (2013.01)
USPC **435/7.1**; 435/7.92; 436/513; 436/811

(58) **Field of Classification Search**
None
See application file for complete search history.

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Primary Examiner — Gary W Counts
(74) *Attorney, Agent, or Firm* — Greenberg Traurig, LLP

(57) **ABSTRACT**

A multi-stage method for diagnosing an immunologic food sensitivity or intolerance in a companion animal. Firstly a saliva or blood spot or other non-serum bodily fluid sample is collected. The screening the saliva or blood spot or other non-serum bodily fluid sample detects the presence of at least one of IgA or IgM antibody to a particular food ingredient or composition. An immunologic food sensitivity or intolerance based on the presence of the antibody is diagnosed. Secondly a blood sample is collected and serum from the sample is screened to detect the semi-quantitative or quantitative presence of at least one of an IgA, IgM or IgG antibody or immune complex to a particular food ingredient or composition. An immunologic food sensitivity or intolerance based on the presence of the antibody or immune complex is diagnosed. Thirdly, a biologically active nutrient in relation to the animal from a molecular dietary signature is determined. The molecular dietary signature for the animal is a variation of expression of a set of genes, proteins or metabolites which may differ for the genotype of each animal.

5 Claims, 2 Drawing Sheets

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(12) **United States Patent**
Dodds et al.

(10) **Patent No.: US 10,989,717 B1**
(45) **Date of Patent: Apr. 27, 2021**

(54) **OXIDATIVE STRESS BIOMARKERS TESTING IN ANIMALS**

(71) Applicant: **HEMOPET**, Garden Grove, CA (US)

(72) Inventors: **Winifred Jean Dodds**, Santa Monica, CA (US); **Denis Marc Callewaert**, Metamora, MI (US)

(73) Assignee: **HEMOPET**, Garden Grove, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **17/114,156**

(22) Filed: **Dec. 7, 2020**

Related U.S. Application Data

(60) Provisional application No. 62/953,049, filed on Dec. 23, 2019.

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G01N 33/68 (2006.01)

(52) **U.S. Cl.**
CPC ... ***G01N 33/6893*** (2013.01); *G01N 2333/525* (2013.01); *G01N 2333/575* (2013.01); *G01N 2800/60* (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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Primary Examiner — Gary Counts
(74) *Attorney, Agent, or Firm* — Greenberg Traurig, LLP

(57) **ABSTRACT**

Diagnosing an oxidative stress (OS) in companion animals comprises screening a bodily fluid sample to detect the presence of an OS biomarker, selectively isoprostane and antioxidants, HODE, microRNAs, TAC, GSH, MDA, and TNF-alpha. The sample can be saliva.

18 Claims, No Drawings

US011181538B2

(12) **United States Patent**
Dodds et al.

(10) **Patent No.: US 11,181,538 B2**
(45) **Date of Patent: *Nov. 23, 2021**

(54) **OXIDATIVE STRESS BIOMARKERS TESTING IN CANINES**

(71) Applicant: **HEMOPET**, Garden Grove, CA (US)

(72) Inventors: **Winifred Jean Dodds**, Santa Monica, CA (US); **Denis Marc Callewaert**, Metamora, MI (US)

(73) Assignee: **HEMOPET**, Garden Grove, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **17/207,254**

(22) Filed: **Mar. 19, 2021**

(65) **Prior Publication Data**

US 2021/0231693 A1 Jul. 29, 2021

Related U.S. Application Data

(63) Continuation-in-part of application No. 17/114,156, filed on Dec. 7, 2020, now Pat. No. 10,989,717.

(60) Provisional application No. 62/953,049, filed on Dec. 23, 2019.

(51) **Int. Cl.**

G01N 33/50	(2006.01)
G01N 33/92	(2006.01)
A23L 33/105	(2016.01)

(52) **U.S. Cl.**

CPC ***G01N 33/92*** (2013.01); ***A23L 33/105*** (2016.08); *G01N 2405/00* (2013.01); *G01N 2800/7009* (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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Primary Examiner — Gary Counts

(74) *Attorney, Agent, or Firm* — Greenberg Traurig, LLP

(57) **ABSTRACT**

Diagnosing an oxidative stress (OS) in companion animals comprises screening a bodily fluid sample to detect the presence of an OS biomarker, selectively isoprostane and antioxidants, HODE, microRNAs, TAC, GSH, MDA, and TNF-alpha. The sample can be saliva.

10 Claims, 1 Drawing Sheet