

AMENDMENTS

Please add new claims 12-28

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12. (New) A method of creating a molecular profile of a chemical composition suspected of toxicity, comprising the steps of:

- a) contacting an isolated unmodified mammalian embryoid body with the chemical composition suspected of toxicity; and
- b) detecting and recording alterations in expression of sets of genes or proteins in the mammalian embryoid body in response to the chemical composition compared to expression of sets of genes or proteins in an embryoid body not contacted with the chemical composition, to create a pattern of alterations in gene expression or protein expression in the mammalian embryoid body in response to the chemical composition.

a' 13. (New) The method of claim 12, wherein the alterations in gene expression or protein expression are detected by a label.

14. (New) The method of claim 13, wherein the label is selected from the group consisting of fluorescent, colorimetric, radioactive, enzyme, enzyme substrate, nucleoside analog, magnetic, glass, latex bead, colloidal gold, and electronic transponder.

15. (New) The method of claim 12, wherein the molecular profile comprises alterations in gene expression.

16. (New) The method of claim 15, wherein the alterations in gene expression are detected by a nucleotide hybridization assay.

17. (New) The method of claim 12, wherein the molecular profile comprises alterations in protein expression.

18. (New) The method of claim 17, wherein the alterations in protein expression are detected by an immunodetection assay.

19. (New) The method of claim 17, wherein the alterations in protein expression are detected by a mass spectrometry assay.
20. (New) The method of claim 12, wherein the isolated mammalian embryoid bodies are of human.
21. (New) The method of claim 20, further wherein the chemical compositions having predetermined toxicities are selected from the group consisting of therapeutic agents, neurotoxins, renal toxins, hepatic toxins, toxins of hematopoietic cells, and myotoxins.
22. (New) The method of claim 20, further wherein the chemical compositions having predetermined toxicities are selected from the group consisting of agents that are toxic to cells of one or more reproductive organs, teratogenic agents and carcinogens.
23. (New) The method of claim 20, further wherein the chemical compositions having predetermined toxicities are selected from the group consisting of agricultural chemicals, cosmetics, and environmental contaminants.
24. (New) The method of claim 12, wherein the isolated mammalian embryoid bodies are of non-human mammals.
25. (New) The method of claim 24, wherein the non-human mammals are rodents.
26. (New) The method of claim 24, further wherein the chemical compositions having predetermined toxicities are selected from the group consisting of animal therapeutics, neurotoxins, renal toxins, hepatic toxins, toxins of hematopoietic cells, and myotoxins.
27. (New) The method of claim 24, further wherein the chemical compositions having predetermined toxicities are selected from the group consisting of agents that are toxic to cells of one or more reproductive organs, teratogenic agents and carcinogens.

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28. (New) The method of claim 24, further wherein the chemical compositions having predetermined toxicities are selected from the group consisting of agricultural chemicals, cosmetics, and environmental contaminants.

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