

collecting the clinical parameters for an individual patient; receiving the clinical parameters for the individual patient into the fully unsupervised Bayesian Belief Network model;

outputting the patient-specific probability of transplant glomerulopathy from the fully unsupervised Bayesian Belief Network model to a graphical user interface for use by a clinician; and

updating the fully unsupervised Bayesian Belief Network model using the clinical parameters for the individual patient and the patient-specific probability of transplant glomerulopathy.

**24.** The method according to claim **23**, wherein the biomarker levels include:

- a first gene expression level for the IP-10 gene taken from the serum on a first measurement day;
- a second gene expression level for the IP-10 gene taken from the serum on a second measurement day;
- a third gene expression level for the IP-10 gene taken from the serum on a third measurement day;
- a fourth gene expression level for the IL-6 taken from the serum on the first measurement day;
- a fifth gene expression level for the IL-6 taken from the serum on the third measurement day;
- a sixth gene expression level for the MCP-1 gene taken from the wound effluent on the first measurement day;
- a seventh gene expression level for the MCP-1 gene taken from the serum on the first measurement day;
- a eighth gene expression level for the MCP-1 gene taken from the serum on the second measurement day;
- a ninth gene expression level for the MCP-1 gene taken from the serum on a thirtieth measurement day;
- a tenth gene expression level for the IL-5 gene taken from the wound effluent on the third measurement day;
- a eleventh gene expression level for the IL-5 gene taken from the wound effluent on the thirtieth measurement day; and
- a twelfth gene expression level for the RANTES gene taken from the wound effluent on the third measurement day.

**25.** The method according to claim **24**, wherein the biomarker levels include:

- a lower first gene expression level, a middle first gene expression level, and an upper first gene expression level, the middle first gene expression level having a lower limit of 2427 mean fluorescent intensity (MFI) and an upper limit of 4040 MFI;
- a lower second gene expression level, a middle second gene expression level, and an upper second gene expression level, the middle second gene expression level having a lower limit of 1371 MFI and an upper limit of 4108 MFI;
- a lower third gene expression level, a middle third gene expression level, and an upper third gene expression level, the middle third gene expression level having a lower limit of 2164 MFI and an upper limit of 3509 MFI;
- a lower fourth gene expression level, a middle fourth gene expression level, and an upper fourth gene expression level, the middle fourth gene expression level having a lower limit of 174 MFI and an upper limit of 955 MFI;
- a lower fifth gene expression level, a middle fifth gene expression level, and an upper fifth gene expression level;

- a lower sixth gene expression level, a middle sixth gene expression level, and an upper sixth gene expression level, the middle sixth gene expression level having a lower limit of 352 MFI and an upper limit of 709 MFI;

- a lower seventh gene expression level, a middle seventh gene expression level, and an upper seventh gene expression level, the middle seventh gene expression level having a lower limit of 40.5 MFI and an upper limit of 199 MFI;

- a lower eighth gene expression level, a middle eighth gene expression level, and an upper eighth gene expression level, the middle eighth gene expression level having a lower limit of 50.3 MFI and an upper limit of 352 MFI;

- a lower ninth gene expression level, a middle ninth gene expression level, and an upper ninth gene expression level, the middle ninth gene expression level having a lower limit of 35.9 MFI and an upper limit of 88 MFI;

- a lower tenth gene expression level, a middle tenth gene expression level, and an upper tenth gene expression level, the middle tenth gene expression level having a lower limit of 2.2 MFI and an upper limit of 8.7 MFI;

- a lower eleventh gene expression level, a middle eleventh gene expression level, and an upper eleventh gene expression level, the middle eleventh gene expression level having a lower limit of 10.5 MFI and an upper limit of 50 MFI; and

- a lower twelfth gene expression level, a middle twelfth gene expression level, and an upper twelfth gene expression level, the middle twelfth gene expression level having a lower limit of 122 MFI and an upper limit of 7538 MFI.

**26.** The method according to claim **24**, wherein:

- the twelfth gene expression level is usable to estimate the fourth gene expression level;
- the fourth gene expression level is usable to estimate the seventh gene expression level;
- the seventh gene expression level is usable to estimate the fifth gene expression level;
- the first gene expression level is usable to estimate the eighth gene expression level;
- the eighth gene expression level is usable to estimate the second gene expression level;
- the second gene expression level is usable to estimate the third gene expression level;
- the tenth gene expression level is usable to estimate the sixth gene expression level;
- the sixth gene expression level is usable to estimate the second gene expression level;
- the ninth gene expression level is usable to estimate the eighth gene expression level; and
- the eleventh gene expression level is usable to estimate the first gene expression level.

**27.** The method according to claim **23**, wherein the biomarker levels further include gene expression levels for an IL-1 $\alpha$  gene, IL-1 $\beta$  gene, IL-2 gene, IL-3 gene, IL-4 gene, IL-7 gene, IL-8 gene, IL-10 gene, IL-12(p40) gene, IL-12(p70) gene, IL-13 gene, IL-15 gene, Eotaxin gene, IFN- $\gamma$  gene, GM-CSF gene, MIP-1 $\alpha$  gene, and TNF $\alpha$  gene.

**28.** The method according to claim **23**, wherein the clinical parameters further include RNA transcripts and translation products of genes selected from the group consisting: ACTA2, ACVR1, ADM, ALCAM, ANGPT 1, ANGPT 2, ANGPT 4, BAX, BCL2, BCL2L, 18S, 18S, CAV2, CCL1, CCL11, CCL17, CCL19, CCL 2, CCL 20, CCL22, CCL25,