What is claimed is:

1. A method for detecting and quantifying auto-antibodies against a plurality of tumor biomarkers aiming for diagnosing and staging liver cancers comprising:

comparing tumor cells with normal cells to evaluate a set of proteins which is unique in tumor cells but not in normal cells as a plurality of specific biomarkers for said cancers;

identifying the set of proteins from paired patients' biopsy samples by using a two-dimensional electrophoresis or mass spectrometry based technique;

validating the set of proteins for diagnosis of liver cancers,

wherein the set of proteins are expressed from cDNA clones, purified and coupled to fluorescent microsphere beads with different emission wavelengths to form a protein-bead conjugate,

wherein the auto-antibodies present in patients' sera against the set of proteins immunologically bind to the protein-bead conjugate;

wherein the plurality of tumor biomarkers comprises at least one of Bmi-1, VCCl, SUMO-4, RhoA, TXN, ET-1, UBE2C, HDGF2, FGF21, LECT2, SODl, STMN4, Midkine, IL-17A and IL26.

2. The method of claim 1, wherein the auto-antibodies subsequently interacts with phycoerythrin (PE)-conjugated secondary antibodies, and fluorescence signal specific for the microsphere beads serves as an identifier for the protein-bead conjugate.

3. The method of claim 2, wherein fluorescent intensity given by the PE-conjugated secondary antibodies at the complex is measured to allow the detection and quantification of the auto-antibodies.

4. The method of claim 1, further comprising comparing the sera between patients and healthy subjects to determine the level of auto-antibodies against the corresponding biomarker(s).

5. The method of claim 1, further comprising comparing different sera obtained from different patients at different stages to generate signature patterns for staging.

6. The method of claim 1, wherein the set of proteins comprises at least one of the amino acid sequences of SEQ ID NOS. 1 to 15.

7. The method of claim 1, wherein the tumor cells comprises cells from hepatocellular carcinoma (HCC) tumor.

8. The method of claim 1, wherein each of the fluorescent microsphere beads has a unique fluorescent emission wavelength specific for each of the proteins corresponding to the presence of a specific tumor biomarker while the PE signal generated by a PE-conjugated secondary antibody bound to the protein-bead conjugate of each of the proteins for the specific tumor biomarker is an indicator of the presence of the auto-antibody so produced in patients' sera and the fluorescent intensity of the PE signal is proportional to the abundance of the specific tumor biomarker.

9. The method of claim 1, wherein each of the tumor biomarkers present in the auto-antibodies is as low as about 0.15 ng/mL.

10. A kit for diagnosing and staging liver cancers by detecting and quantifying auto-antibodies from patients against a plurality of tumor biomarkers, the kit comprising a set of proteins expressed from cDNA clones, purified and coupled to fluorescent microsphere beads with different emission wavelengths to form a protein-bead conjugate for immunologically binding the auto-antibodies and subsequently being targeted by PE-conjugated secondary antibody such that fluorescent signal and intensity are measured to determine level of auto-antibodies in the patients compared with normal subjects.

11. The kit of claim 10, wherein the set of proteins comprises at least one of the amino acid sequences of SEQ ID NOS. 1 to 15.

12. The kit of claim 10, wherein the tumor biomarkers comprises at least one of Bmi-1, VCC1, SUMO-4, RhoA, TXN, ET-1, UBE2C, HDGF2, FGF21, LECT2, SOD1, STMN4, Midkine, IL-17A and IL26.

13. The kit of claim 10, wherein each of the cDNA clones comprises a His tagged plasmid containing a corresponding cDNA insert of the protein to be expressed in a competent cell for being coupled to the fluorescent microsphere beads with different emission wavelengths in order to form the protein-bead conjugate for immunologically binding the auto-antibodies and subsequently being targeted by PE-conjugated secondary antibody.

14. The kit of claim 10, wherein a multiplex of different fluorescent microsphere beads individually giving unique fluorescence are conjugated with the set of proteins so expressed and purified to form the protein-bead conjugate, and said protein-bead conjugate is preloaded in wells of a container, and to each well, patients' serum containing autoantibodies is loaded and allowed to interact with the protein-bead conjugate, followed by adding the PE-conjugated secondary antibodies to bind to the auto-antibodies, then any excess secondary antibodies are washed away and a complex comprising the protein-bead conjugate and cascade of the antibodies are measured individually, wherein the unique fluorescence signal of the protein-bead conjugate identifies the presence of a specific tumor biomarker, while the PE signal from the secondary antibody of the complex indicates the presence of the auto-antibodies and the relative concentration of said tumor biomarker in the patients' sera.

15. The kit of claim 10, wherein each of the tumor biomarkers present in the auto-antibodies is as low as about 0.15 ng/mL.