What is claimed is:

[Claim 1]. A microfluidic blood type detection chip, wherein the chip comprises a chip body, and the chip body comprises: a forward typing blood type identification area, which is provided with a first sample injection chamber, a quantitative mixing chamber, and a forward typing reaction chamber;

a reverse typing blood type identification area, which is provided with a second sample injection chamber, a quantitative separation chamber, and a reverse typing reaction chamber; wherein the quantitative separation chamber is configured to stratify plasma sample and blood cell sample from the sample to be detected;

vent holes communicated with the forward typing reaction chamber and the reverse typing reaction chamber respectively;

the first sample injection chamber and the second sample injection chamber are used for injecting a sample to be detected, and are respectively connected with the quantitative mixing chamber and the quantitative separation chamber through a microfluidic channel, the reaction sample enters the quantitative mixing chamber and the quantitative separation chamber respectively from the first sample injection chamber and the second sample injection chamber;

a diluent is preset in the first sample injection chamber, the diluent is configured to enter the quantitative mixing chamber through the first sample injection chamber;

a diluent is preset in the second sample injection chamber, the diluent is configured to enter the quantitative separation chamber through the second sample injection chamber;

the forward typing reaction chamber is configured for, when the reaction sample and the diluent in the first sample injection chamber are mixed in the quantitative mixing chamber, the blood cell sample enters the forward typing reaction chamber through a microfluidic channel to react with reaction reagent therein for detection;

the reverse typing reaction chamber is configured for, the plasma sample separated from the quantitative separation chamber enters the reverse typing reaction chamber through a microfluidic channel to react with reaction reagent therein for detection;

a hematocrit detection tube groove, which is connected to the quantitative separation chamber and is located on the side of the quantitative separation chamber close to the forward typing blood type identification area.

[Claim 2]. The microfluidic blood type detection chip according to claim 1, wherein the forward typing reaction chamber includes a plurality of blood type antibody reagent reaction cavities, a forward typing quality control reaction cavity and an overflow tank;

the reverse typing reaction chamber includes a plurality of blood type red blood cell reagent reaction cavities, a reverse typing quality control reaction cavity and an overflow tank.

[Claim 3]. The microfluidic blood type detection chip according to claim 2, wherein the plurality of blood type antibody reagent reaction cavities and the plurality of blood type red blood cell reagent reaction cavities are respectively equidistantly distributed.

[Claim 4]. The microfluidic blood type detection chip according to claim 1, wherein the reverse typing blood type identification area further comprises a sample overflow chamber, which is connected with the quantitative separation chamber, and the reaction sample exceeding the quantitative separation chamber enters the sample overflow chamber.

[Claim 5]. The microfluidic blood type detection chip according to claim 4, wherein the quantitative separation chamber includes a separation chamber I and a separation chamber II, the sample overflow chamber and the separation chamber I are respectively connected to the separation chamber II through different microfluidic channels, the reaction sample exceeding the separation chamber I enters the separation chamber II and the sample overflow chamber successively.

[Claim 6]. The microfluidic blood type detection chip according to claim 4, wherein the sample overflow chamber is connected with the vent hole that is communicated with the forward typing reaction chamber.

[Claim 7]. The microfluidic blood type detection chip according to claim 1,

wherein the microfluidic channel between the first sample injection chamber and the quantitative mixing chamber, the microfluidic channel between the quantitative mixing chamber and the forward typing reaction chamber, and the microfluidic channel between the quantitative separation chamber and the reverse typing reaction chamber are pre-filled with a solid phase change material.

[Claim 8]. The microfluidic blood type detection chip according to claim 7, wherein the phase change material is a single-component alkane solid phase change material.

[Claim 9]. The microfluidic blood type detection chip according to claim 7, wherein the chip further comprises a phase change material filling port.

[Claim 10]. The microfluidic blood type detection chip according to claim 9, wherein the phase change material filling port is a vent hole.

[Claim 11]. The microfluidic blood type detection chip according to claim 1, wherein the volumes of the forward typing reaction chamber and the reverse typing reaction chamber are both 20-40 μL.

[Claim 12]. The microfluidic blood type detection chip according to claim 1, wherein the volume of the first sample injection chamber is 100-200 μL.

[Claim 13]. The microfluidic blood type detection chip according to claim 1, wherein the volume of the second sample injection chamber is 250-350 μL.