CLAIMS

1. A biosensor strip, comprising:

a reaction layer, comprising a reaction flow channel;

a separation layer, located above the reaction layer and covering the reaction layer;

an exhaust layer, located above the separation layer, the exhaust layer comprising an exhaust flow channel; and

a through hole, passing through the separation layer to communicate with the exhaust flow channel and the reaction flow channel;

wherein, the reaction flow channel comprises a sampling port, the reaction flow has a capillary structure for allowing a liquid sample to enter the reaction flow channel through the sampling port, and the exhaust flow channel is configured to reduce a flow of the liquid sample provided by a capillary action and the exhaust flow channel is configured to reduce a flow of the liquid sample in the reaction flow channel, by allowing air flow smaller than the flow of the liquid sample provided by a capillary action.

2. The biosensor strip according to claim 1, wherein a resistance of air in the exhaust flow channel is R_G, a resistance difference between the liquid sample and air in the reaction flow channel is ΔR_L, and $R_G >> \Delta R_L$.

3. The biosensor strip according to claim 1, wherein the exhaust flow channel is distributed in a wave manner on the exhaust layer.

4. The biosensor strip according to claim 1, wherein the exhaust flow channel has a lateral cross section perpendicular to an extension direction of the exhaust

flow channel, the lateral cross section has a long diameter and a short diameter, and a ratio of the long diameter to the short diameter is greater than 5.

5. The biosensor strip according to claim 1, wherein the through hole comprises a choke valve, the choke valve having a lower slot in communication with the reaction flow channel; and a middle slot located above the lower slot, wherein the lower slot has an opening in communication with the middle slot, the opening defining a horizontal plane, and the middle slot has a bottom part, the bottom part being formed with a connecting part to connect the opening, wherein a surface of the connecting part is not higher than the horizontal plane.

6. The biosensor strip according to claim 4, wherein the through hole comprises a hydrophobic inner wall.

7. The biosensor strip according to claim 1, wherein the exhaust layer comprises:

a first exhaust set, comprising a first air flow channel at a first layer, a first upper cover covering the first layer, and a connecting hole located at the first upper cover; and

a second exhaust set disposed above the first exhaust set, the second exhaust set comprising a second air flow channel at a second layer, a second upper cover covering the second layer, and an exhaust hole located at the second upper cover;

wherein, the first air flow channel, the connecting hole, the second air flow channel and the exhaust hole form the exhaust flow channel.

8. The biosensor strip according to claim 1, wherein the exhaust layer comprises a first layer, a second layer covering the first layer, and a third layer covering the second layer; when a liquid sample enters the reaction flow channel,

a flow direction of air in the exhaust flow channel comprises following sequences: (1) flowing from the first layer, passing through the second layer, and entering the third layer; (2) then flowing from the third layer, passing through the second layer, and returning to the first layer; and (3) again flowing from the first layer, passing through the second layer and entering the third layer.

9. The biosensor strip according to claim 1, the reaction layer comprising at least one auxiliary exhaust flow channel in communication with the reaction flow channel, wherein the auxiliary exhaust flow channel replace the exhaust flow channel to determine a flow of the liquid sample in a partial region of the reaction flow channel, and wherein the partial region further comprises an intersection of the reaction flow channel and the auxiliary exhaust flow channel.

10. The biosensor strip according to claim 9, wherein the partial region comprises a range from the sampling port of the reaction flow channel extended to the intersection of the reaction flow channel and the auxiliary exhaust flow channel.