Erythrocytes

Erythrocytes are originated from liver and spleen in embryonic stage. After birth they go to the liver and replace their nucleus by haemoglobin.

Transportation of oxygen

In Pulmonary capillary, the haemoglobin of erythrocytes reacts with oxygen and produces Oxyhaemoglobin

Haemoglobin+Oxygen ------> Oxyhaemoglobin

These Oxyhaemoglobin are transported through the blood to the cell after that.

Pulmonary capillary ---> Pulmonary vein ---> left atrium---> bicuspid valve ---> left ventricle ---> semi lunar valve---> aorta ---> artery--> arteriole---> capillary

In terminal capillary of the body, Oxyhaemoglobin make oxygen free. These free oxygen diffuse to the lymph. At last, these enter into the cell

Terminal capillary---> lymph ---> cell

Transportation of carbon dioxide

Carbon dioxide is produced in the cell due to respiration. These carbon dioxide diffuse to the lymp from the cell and enters into the terminal capillary of the body.

Cell ---> lymph ---> terminal capillary

In plasma, there are huge number of water. Carbon dioxide reacts with the water and produce carbonic acid.

CO_2+H_2O ---> H_2CO_3

Carbonic acid is an unstable compound. So it breaks down into bi carbonate.

H_2CO_3 ---> $H^+ + HCO_3^-$

These bicarbonate reacts with the potassium ion of the erythrocytes and produce sodium bicarbonate and potassium carbonate.

$HCO_3^- + K^+$ ---> $KHCO_3$

$HCO_3^- + Na^+$ ---> $NaHCO_3$

These potassium bicarbonate and sodium bicarbonate transport to the Pulmonary capillary

Terminal capillary---> venniolous ---> branches of vein ---> vein ---> inferior and superior vena cave ---> right atrium---> tricuspid valve --> right ventricle---> semi lunar valve ---> Pulmonary aorta ---> Pulmonary capillary

In Pulmonary capillary, potassium bicarbonate and sodium bicarbonate break down and release carbon dioxide. These carbon dioxide diffuse to the alveolous of the lungs.