

Blood substitutes

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Blood substitutes are an attractive alternative to the costly process of donating, checking, storing and administering blood, especially given the immunogenic and potential infectious complications associated with transfusion. There are several oxygen-carrying blood substitutes under investigation in experimental animal or early clinical trials. Blood substitutes are either biomimetic or abiotic. Biomimetic the blood and are haemoglobin based. Abiotic substitutes are synthetic oxygen carriers and are currently primarily per-fluorocarbon based. Haemoglobin is seen as the obvious candidate for developing an effective blood substitute, and one free haemoglobin solution is available in some countries where blood components are not readily available. Various other engineered molecules are under clinical trials and are based on human, bovine or recombinant technologies. Second-generation per-fluorocarbon emulsions are also showing potential in clinical trials. Blood substitutes

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