

# Synthetic blood



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**SYNTHETIC BLOOD** This is an artificial blood made up of synthetic blood products. 1. The two main types of non-cellular blood products are hemoglobin based and Perfluorocarbon (PFC) based. a. Hemoglobin The hemoglobin-based substitutes use hemoglobin from several different sources: human, animal, and recombinant. Human hemoglobin is obtained from donated blood that has reached its expiration date and from the small amount of red cells collected as a by-product during plasma donation. b. Perfluorocarbon(PFC) PFCs are synthetic hydrocarbons with halide substitutions and are about 1/100th the size of a red blood cell. These solutions have the capacity to dissolve up to 50 times more oxygen than plasma. Because PFC solutions are modified hydrocarbons, however, they do not mix well with blood and must be emulsified with lipids or oils. I think research and funding should be continued for SRBC. Based on my research, I support the claim made in the nanotechnology review. This is because, the natural blood products are excreted after they are used for their work and transported for bile production, but these synthetic products cannot be used in bile production. 2. The artificial Respirocytes are hypothetical, microscopic, artificial red blood cells that can emulate the function of its organic counterpart, only with 200 times the efficiency, so as to supplement or replace the function of much of the human body's normal respiratory system. Role of Respirocytes qualify as molecular nanotechnology, a field of technology still in the very earliest, purely theoretical phases of development. Current technology could, therefore, not be sufficient to build a respirocyte due to considerations of power, immune reaction or toxicity, computation and communication. Based on the research, I will not prefer to work for a company who produce more respirocyte. 3. Benefits and risk of

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sRBCs in Society Benefits | Risks | Play a pivotal role of various elective surgeries and in establishing trauma care. | DisturbancesHypertensionfever | Beneficial for those patients who are in requirement of frequent blood transfusions. | Stroke Hemoglobinuria Oliguria | Used as preservatives for organs that would check the reperfusion damage to donor organs. | jaundice, rashes, diarrhea, and rise in lipase levels |