

`Hemoglobin-based oxygen carrier-201 (HBOC-201) publications

1. [Relative Efficacies of HBOC-201 and Polyheme to Increase Oxygen Transport Compared to Blood and Crystalloids. "2017 Military Supplement".](#)
Dubé GP, Pitman AN, Mackenzie CF.
Shock. 2017 Nov 14. doi: 10.1097/SHK.0000000000001058. [Epub ahead of print]
PMID: 29140831 [PubMed - as supplied by publisher]
[Similar articles](#)
2. [Normalization of hemoglobin-based oxygen carrier-201 induced vasoconstriction: targeting nitric oxide and endothelin.](#)
Taverne YJ, de Wijs-Meijler D, Te Lintel Hekkert M, Moon-Massat PF, Dubé GP, Duncker DJ, Merkus D.
J Appl Physiol (1985). 2017 May 1;122(5):1227-1237. doi: 10.1152/japplphysiol.00677.2016. Epub 2017 Feb 9.
PMID: 28183818 [PubMed - indexed for MEDLINE] **Free Article**
[Similar articles](#)
3. [Users Guide to Pitfalls and Lessons Learned about HBOC-201 During Clinical Trials, Expanded Access, and Clinical use in 1,701 Patients.](#)
Mackenzie CF, Dubé GP, Pitman A, Zafirelis M.
Shock. 2017 Oct 25. doi: 10.1097/SHK.0000000000001038. [Epub ahead of print]
PMID: 29076972 [PubMed - as supplied by publisher]
[Similar articles](#)
4. [Storage of nitroglycerin \(NTG\) admixed with HBOC-201 for 30 days in polyolefin plastic bags: a pilot study.](#)
Nigam S, McCarron R, Arnaud F.
Drug Deliv Transl Res. 2017 Oct;7(5):674-682. doi: 10.1007/s13346-017-0411-6.
PMID: 28744782 [PubMed - indexed for MEDLINE]
[Similar articles](#)
5. [Hypertonic HBOC-201 decreases neutrophil activation after hemorrhagic shock.](#)
Rivera-Chávez FA, Lu A, Liu MM, Abdalla A, Minei JP.
J Invest Surg. 2014 Feb;27(1):14-20. doi: 10.3109/08941939.2013.826756.
PMID: 24456255 [PubMed - indexed for MEDLINE]
[Similar articles](#)
6. [HBOC-201, hemoglobin glutamer-250 \(bovine\), Hemopure \(Biopure Corporation\).](#)
Jahr JS, Moallempour M, Lim JC.

Expert Opin Biol Ther. 2008 Sep;8(9):1425-33. doi: 10.1517/14712598.8.9.1425 . Review.

PMID: 18694360 [PubMed - indexed for MEDLINE]

[Similar articles](#)

7. [Analytical interference of HBOC-201 \(Hemopure, a synthetic hemoglobin-based oxygen carrier\) on four common clinical chemistry platforms.](#)

Korte EA, Pozzi N, Wardrip N, Ayyoubi MT, Jortani SA.

Clin Chim Acta. 2018 Jul;482:33-39. doi: 10.1016/j.cca.2018.03.017. Epub 2018 Mar 23.

PMID: 29580857 [PubMed - indexed for MEDLINE]

[Similar articles](#)

8. [Experience with the use of Hemopure in the care of a massively burned adult.](#)

Lundy JB, Lewis CJ, Cancio LC, Cap AP.

Int J Burns Trauma. 2014 Feb 22;4(1):45-8. eCollection 2014.

PMID: 24624314 [PubMed] **Free PMC Article**

[Similar articles](#)

9. [Bloodless reperfusion with the oxygen carrier HBOC-201 in acute myocardial infarction: a novel platform for cardioprotective probes delivery.](#)

García-Ruiz JM, Galán-Arriola C, Fernández-Jiménez R, Agüero J, Sánchez-González J, García-Alvarez A, Nuno-Ayala M, Dubé GP, Zafirelis Z, López-Martín GJ, Bernal JA, Lara-Pezzi E, Fuster V, Ibáñez B.

Basic Res Cardiol. 2017 Mar;112(2):17. doi: 10.1007/s00395-017-0605-6. Epub 2017 Feb 10.

PMID: 28188434 [PubMed - indexed for MEDLINE]

[Similar articles](#)

10. [The Use of an Acellular Oxygen Carrier in a Human Liver Model of Normothermic Machine Perfusion.](#)

Laing RW, Bhogal RH, Wallace L, Boteon Y, Neil DAH, Smith A, Stephenson BTF, Schlegel A, Hübscher SG, Mirza DF, Afford SC, Mergental H.

Transplantation. 2017 Nov;101(11):2746-2756. doi: 10.1097/TP.0000000000001821.

PMID: 28520579 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

11. [Regional blood flow after serial normovolemic exchange transfusion with HBOC-201 \(Hemopure\) in anesthetized swine.](#)

Mongan PD, Moon-Massat PF, Rentko V, Mihok S, Dragovich A, Sharma P.

J Trauma. 2009 Jul;67(1):51-60. doi: 10.1097/TA.0b013e3181838030.

PMID: 19590308 [PubMed - indexed for MEDLINE]

[Similar articles](#)

12. [Use of the blood substitute HBOC-201 in critically ill patients during sickle crisis: a three-case series.](#)

Davis JM, El-Haj N, Shah NN, Schwartz G, Block M, Wall J, Tidswell M, DiNino E. Transfusion. 2018 Jan;58(1):132-137. doi: 10.1111/trf.14386. Epub 2017 Oct 26.

PMID: 29076161 [PubMed - indexed for MEDLINE]

[Similar articles](#)

13. [Effects of a hemoglobin-based oxygen carrier \(HBOC-201\) and derivatives with altered oxygen affinity and viscosity on systemic and microcirculatory variables in a top-load rat model.](#)

Song BK, Nugent WH, Moon-Massat PF, Pittman RN.

Microvasc Res. 2014 Sep;95:124-30. doi: 10.1016/j.mvr.2014.07.005. Epub 2014 Jul 18.

PMID: 25046829 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

14. [Effects of hemoglobin glutamer-250 \(bovine\) \(HBOC-201, Hemopure\) on coagulation testing.](#)

Jahr JS, Lurie F, Gosselin R, Lin JS, Wong L, Owings JT, Larkin E.

Am J Ther. 2002 Sep-Oct;9(5):431-6.

PMID: 12237736 [PubMed - indexed for MEDLINE]

[Similar articles](#)

15. [Hemoglobin-Based Oxygen Carrier \(HBOC\) Development in Trauma: Previous Regulatory Challenges, Lessons Learned, and a Path Forward.](#)

Keipert PE.

Adv Exp Med Biol. 2017;977:343-350. doi: 10.1007/978-3-319-55231-6_45. Review.

PMID: 28685464 [PubMed - indexed for MEDLINE]

[Similar articles](#)

16. [Determination of methemoglobin and hemoglobin levels in small volume samples.](#)

Arnaud F, Higgins A, McCarron R, Moon-Massat PF.

Artif Cells Nanomed Biotechnol. 2017 Feb;45(1):58-62. Epub 2016 Mar 2.

PMID: 26934005 [PubMed - indexed for MEDLINE]

[Similar articles](#)

17. [Does HBOC-201 \(Hemopure\) affect platelet function in orthopedic surgery: a single-site analysis from a multicenter study.](#)
Jahr JS, Liu H, Albert OK, Gull A, Moallempour M, Lim J, Gosselin R.
Am J Ther. 2010 Mar-Apr;17(2):140-7. doi: 10.1097/MJT.0b013e3181a2b08d.
PMID: 19417588 [PubMed - indexed for MEDLINE]
[Similar articles](#)
18. [Normothermic machine perfusion of donor livers without the need for human blood products.](#)
Matton APM, Burlage LC, van Rijn R, de Vries Y, Karangwa SA, Nijsten MW, Gouw ASH, Wiersema-Buist J, Adelmeijer J, Westerkamp AC, Lisman T, Porte RJ.
Liver Transpl. 2018 Apr;24(4):528-538. doi: 10.1002/lt.25005. Erratum in: [Liver Transpl. 2018 Aug;24\(8\):1151.](#)
PMID: 29281862 [PubMed - indexed for MEDLINE] **Free PMC Article**
[Similar articles](#)
19. [Bovine hemoglobin \(glutamer-250, Hemopure\)-specific immunoglobulin G antibody cross-reacts with human hemoglobin but does not lyse red blood cells in vitro.](#)
Hamilton RG, Kickler TS.
Transfusion. 2007 Apr;47(4):723-8.
PMID: 17381632 [PubMed - indexed for MEDLINE]
[Similar articles](#)
20. [HBOC-201: the multi-purpose oxygen therapeutic.](#)
Dubé GP, Vranckx P, Greenburg AG.
EuroIntervention. 2008 May;4(1):161-5. Review.
PMID: 19112795 [PubMed - indexed for MEDLINE]
[Similar articles](#)
21. [Hemoglobin glutamer-250 \(bovine\) in South Africa: consensus usage guidelines from clinician experts who have treated patients.](#)
Mer M, Hodgson E, Wallis L, Jacobson B, Levien L, Snyman J, Sussman MJ, James M, van Gelder A, Allgaier R, Jahr JS.
Transfusion. 2016 Oct;56(10):2631-2636. doi: 10.1111/trf.13726. Epub 2016 Sep 23.
PMID: 27658499 [PubMed - indexed for MEDLINE]
[Similar articles](#)
22. [The pharmacology of tissue oxygenation by biopure's hemoglobin-based oxygen carrier, Hemopure \(HBOC-201\).](#)
Pearce LB, Gawryl MS.

Adv Exp Med Biol. 2003;530:261-70.

PMID: 14562723 [PubMed - indexed for MEDLINE]

[Similar articles](#)

23. [The use of bovine hemoglobin glutamer-250 \(Hemopure\) in surgical patients: results of a multicenter, randomized, single-blinded trial.](#)

Sprung J, Kindscher JD, Wahr JA, Levy JH, Monk TG, Moritz MW, O'Hara PJ.

Anesth Analg. 2002 Apr;94(4):799-808, table of contents.

PMID: 11916776 [PubMed - indexed for MEDLINE]

[Similar articles](#)

24. [Resuscitation from hemorrhagic shock comparing standard hemoglobin-based oxygen carrier \(HBOC\)-201 versus 7.5% hypertonic HBOC-201.](#)

Rivera-Chavez FA, Huerta S, Brown R, York GB, Minei JP.

J Trauma. 2007 Nov;63(5):1113-9.

PMID: 17993959 [PubMed - indexed for MEDLINE]

[Similar articles](#)

25. [A safety and efficacy evaluation of hemoglobin-based oxygen carrier HBOC-201 in a randomized, multicenter red blood cell controlled trial in noncardiac surgery patients.](#)

Van Hemelrijck J, Levien LJ, Veeckman L, Pitman A, Zafirelis Z, Standl T.

Anesth Analg. 2014 Oct;119(4):766-76. doi: 10.1213/ANE.0000000000000305.

PMID: 24977631 [PubMed - indexed for MEDLINE]

[Similar articles](#)

26. [No effect of the hemoglobin solution HBOC-201 on the response of the rat R1H tumor to fractionated irradiation.](#)

Raabe A, Gottschalk A, Hommel M, Dubben HH, Strandl T.

Strahlenther Onkol. 2005 Nov;181(11):730-7.

PMID: 16254709 [PubMed - indexed for MEDLINE]

[Similar articles](#)

27. [Vital organ tissue oxygenation after serial normovolemic exchange transfusion with HBOC-201 in anesthetized swine.](#)

Muir WW, Ilangovan G, Zweier JL, Moon-Massat PF, Rentko VT.

Shock. 2011 Jun;35(6):597-603. doi: 10.1097/SHK.0b013e31821366f6.

PMID: 21330945 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

28. [Amylase and lipase detection in hemorrhaged animals treated with HBOC-201.](#)

Arnaud F, McCarron R, Freilich D.

Artif Cells Blood Substit Immobil Biotechnol. 2011 Jun;39(3):155-61. doi: 10.3109/10731199.2010.516260. Epub 2010 Dec 21.

PMID: 21171938 [PubMed - indexed for MEDLINE]

[Similar articles](#)

29. [Methemoglobin effects on coagulation: a dose-response study with HBOC-200 \(Oxyglobin\) in a thrombelastogram model.](#)

Moallempour M, Jahr JS, Lim JC, Weeks D, Butch A, Driessen B.

J Cardiothorac Vasc Anesth. 2009 Feb;23(1):41-7. doi: 10.1053/j.jvca.2008.06.006. Epub 2008 Aug 29.

PMID: 18834828 [PubMed - indexed for MEDLINE]

[Similar articles](#)

30. [Pre-hospital resuscitation with HBOC-201 and rFVIIa compared to HBOC-201 alone in uncontrolled hemorrhagic shock in swine.](#)

Haque A, Arnaud F, Teranishi K, Okada T, Kim B, Moon-Massat PF, Auken C, McCarron R, Freilich D, Scultetus AH.

Artif Cells Blood Substit Immobil Biotechnol. 2012 Feb;40(1-2):44-55. doi: 10.3109/10731199.2011.585615. Epub 2011 Aug 2.

PMID: 21806503 [PubMed - indexed for MEDLINE]

[Similar articles](#)

31. [Effects of N-acetyl-L-cysteine and hyaluronic acid on HBOC-201-induced systemic and cerebral vasoconstriction in the rat.](#)

Abutarboush R, Scultetus A, Pappas G, Arnaud F, Auken C, McCarron R, Moon-Massat PF.

Curr Drug Discov Technol. 2013 Dec;10(4):315-24.

PMID: 24074305 [PubMed - indexed for MEDLINE]

[Similar articles](#)

32. [HBOC-201 use in traumatic brain injury: case report and review of literature.](#)

Marinero J, Smith J, Tawil I, Billstrand M, Crookston KP.

Transfusion. 2009 Oct;49(10):2054-9. doi: 10.1111/j.1537-2995.2009.02235.x. Epub 2009 May 27. Review.

PMID: 19497051 [PubMed - indexed for MEDLINE]

[Similar articles](#)

33. [Failed induction of heme oxygenase 1 in endothelial cells exposed to the hemoglobin based oxygen carrier Oxyglobin.](#)

Rempfer C, Ritter A, Schrepfer S, Freitag M, Standl T, Gottschalk A.

Artif Cells Blood Substit Immobil Biotechnol. 2008;36(1):34-44. doi: 10.1080/10731190701857769.

PMID: 18293159 [PubMed - indexed for MEDLINE]

[Similar articles](#)

34. [Influence of the hemoglobin solution HBOC-201 on tissue oxygenation in the rat R1H-tumor.](#)

Gottschalk A, Raabe A, Hommel M, Rempf C, Freitag M, Standl T.

Artif Cells Blood Substit Immobil Biotechnol. 2005;33(4):379-89.

PMID: 16317957 [PubMed - indexed for MEDLINE]

[Similar articles](#)

35. [Measuring circulating blood volume using infused hemoglobin-based oxygen carrier \(oxyglobin\) as an indicator: verification in a canine hypovolemia model.](#)

Jahr JS, Lurie F, Bezdikian V, Driessen B, Gunther RA.

Am J Ther. 2008 Mar-Apr;15(2):98-101. doi: 10.1097/MJT.0b013e31804c6f98.

PMID: 18356627 [PubMed - indexed for MEDLINE]

[Similar articles](#)

36. [Does OxyVita, a new-generation hemoglobin-based oxygen carrier, or oxyglobin acutely interfere with coagulation compared with normal saline or 6% hetastarch? An ex vivo thromboelastography study.](#)

Jahr JS, Weeks DL, Desai P, Lim JC, Butch AW, Gunther R, Driessen B.

J Cardiothorac Vasc Anesth. 2008 Feb;22(1):34-9. doi: 10.1053/j.jvca.2007.02.016.

Epub 2007 May 24.

PMID: 18249328 [PubMed - indexed for MEDLINE]

[Similar articles](#)

37. [Bovine hemoglobin-based oxygen carrier \(HBOC-201\) for resuscitation of uncontrolled, exsanguinating liver injury in swine. Carolina Resuscitation Research Group.](#)

Manning JE, Katz LM, Brownstein MR, Pearce LB, Gawryl MS, Baker CC.

Shock. 2000 Feb;13(2):152-9.

PMID: 10670846 [PubMed - indexed for MEDLINE]

[Similar articles](#)

38. [The effect of hemopure on coagulation in clinically relevant concentrations.](#)

James MF, Potgieter HE, Ellis P.

Anesth Analg. 2004 Dec;99(6):1593-7, table of contents.

PMID: 15562038 [PubMed - indexed for MEDLINE]

[Similar articles](#)

39. [Nitroglycerin attenuates vasoconstriction of HBOC-201 during hemorrhagic shock resuscitation.](#)

Katz LM, Manning JE, McCurdy S, Sproule C, McGwin G Jr, Moon-Massat P, Cairns CB, Freilich D.

Resuscitation. 2010 Apr;81(4):481-7. doi: 10.1016/j.resuscitation.2009.12.015. Epub 2010 Jan 18.

PMID: 20080328 [PubMed - indexed for MEDLINE]

[Similar articles](#)

40. [Clinical use of a haemoglobin-based oxygen carrying solution \(Oxyglobin\) in 48 cats \(2002-2006\).](#)

Weingart C, Kohn B.

J Feline Med Surg. 2008 Oct;10(5):431-8. doi: 10.1016/j.jfms.2007.10.012. Epub 2008 May 2.

PMID: 18455461 [PubMed - indexed for MEDLINE]

[Similar articles](#)

41. [Hitachi Hemolytic Index correlates with HBOC-201 concentrations: impact on suppression of analyte results.](#)

Moon-Massat PF, Tierney JP, Hock KG, Scott MG.

Clin Biochem. 2008 Apr;41(6):432-5. doi: 10.1016/j.clinbiochem.2007.12.003. Epub 2007 Dec 23.

PMID: 18178161 [PubMed - indexed for MEDLINE]

[Similar articles](#)

42. [Hemoglobin-based oxygen carrying compound-201 as salvage therapy for severe neuro- and polytrauma \(Injury Severity Score = 27-41\).](#)

Dudkiewicz M, Harpaul TA, Proctor KG.

Crit Care Med. 2008 Oct;36(10):2838-48. doi: 10.1097/CCM.0b013e318186f6b3.

PMID: 18766094 [PubMed - indexed for MEDLINE]

[Similar articles](#)

43. [Resuscitation from hemorrhagic shock using polymerized hemoglobin compared to blood.](#)

Ortiz D, Barros M, Yan S, Cabrales P.

Am J Emerg Med. 2014 Mar;32(3):248-55. doi: 10.1016/j.ajem.2013.11.045. Epub 2013 Dec 7.

PMID: 24418449 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

44. [The use of haemoglobin glutamer-250 \(HBOC-201\) as an oxygen bridge in patients with acute anaemia associated with surgical blood loss.](#)

Levy JH.

Expert Opin Biol Ther. 2003 Jun;3(3):509-17. Review. Erratum in: Expert Opin Biol Ther. 2003 Sep;3(6):1017.

PMID: 12783619 [PubMed - indexed for MEDLINE]

[Similar articles](#)

45. [Sodium nitrite therapy attenuates the hypertensive effects of HBOC-201 via nitrite reduction.](#)

Rodriguez C, Vitturi DA, He J, Vandromme M, Brandon A, Hutchings A, Rue LW 3rd, Kerby JD, Patel RP.

Biochem J. 2009 Aug 27;422(3):423-32. doi: 10.1042/BJ20090735.

PMID: 19555351 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

46. [Effects of Hemopure on maximal oxygen uptake and endurance performance in healthy humans.](#)

Ashenden MJ, Schumacher YO, Sharpe K, Varlet-Marie E, Audran M.

Int J Sports Med. 2007 May;28(5):381-5. Epub 2006 Oct 6.

PMID: 17024639 [PubMed - indexed for MEDLINE]

[Similar articles](#)

47. [Prevention of the pulmonary vasoconstrictor effects of HBOC-201 in awake lambs by continuously breathing nitric oxide.](#)

Yu B, Volpato GP, Chang K, Bloch KD, Zapol WM.

Anesthesiology. 2009 Jan;110(1):113-22. doi: 10.1097/ALN.0b013e318190bc4f.

PMID: 19104178 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

48. [A hemoglobin-based oxygen carrier, bovine polymerized hemoglobin \(HBOC-201\) versus hetastarch \(HEX\) in a moderate severity hemorrhagic shock swine model with delayed evacuation.](#)

Philbin N, Rice J, Gurney J, McGwin G, Arnaud F, Dong F, Johnson T, Flournoy WS, Ahlers S, Pearce LB, McCarron R, Freilich D.

Resuscitation. 2005 Sep;66(3):367-78.

PMID: 16081200 [PubMed - indexed for MEDLINE]

[Similar articles](#)

49. [The effect HBOC-201 and sodium nitrite resuscitation after uncontrolled haemorrhagic shock in swine.](#)

Moon-Massat P, Scultetus A, Arnaud F, Brown A, Haque A, Saha B, Kim B, Sagini E, McGwin G Jr, Auken C, McCarron R, Freilich D.

Injury. 2012 May;43(5):638-47. doi: 10.1016/j.injury.2010.10.013. Epub 2010 Nov 20.

PMID: 21094491 [PubMed - indexed for MEDLINE]

[Similar articles](#)

50. [Colloid osmotic pressure after hemorrhage and replenishment with Oxyglobin Solution, hetastarch, or whole blood in pregnant sheep.](#)

Posner LP, Moon PF, Bliss SP, Gleed RD, Erb HN.

Vet Anaesth Analg. 2003 Jan;30(1):30-6.

PMID: 14498915 [PubMed - indexed for MEDLINE]

[Similar articles](#)

51. [Resuscitation with the hemoglobin-based oxygen carrier, HBOC-201, in a swine model of severe uncontrolled hemorrhage and traumatic brain injury.](#)

Stern S, Rice J, Philbin N, McGwin G, Arnaud F, Johnson T, Flournoy WS, Ahlers S, Pearce LB, McCarron R, Freilich D.

Shock. 2009 Jan;31(1):64-79. doi: 10.1097/SHK.0b013e3181778dc3.

PMID: 18497706 [PubMed - indexed for MEDLINE]

[Similar articles](#)

52. [HBOC-201 vasoactivity in a phase III clinical trial in orthopedic surgery subjects--extrapolation of potential risk for acute trauma trials.](#)

Freilich D, Pearce LB, Pitman A, Greenburg G, Berzins M, Bebris L, Ahlers S, McCarron R.

J Trauma. 2009 Feb;66(2):365-76. doi: 10.1097/TA.0b013e3181820d5c.

PMID: 19204509 [PubMed - indexed for MEDLINE]

[Similar articles](#)

53. [Is there a role for hemopure in the prehospital setting?](#)

Minei JP.

J Trauma. 2011 May;70(5 Suppl):S38-9. doi: 10.1097/TA.0b013e31821a5a09.

Review. No abstract available.

PMID: 21841569 [PubMed - indexed for MEDLINE]

[Similar articles](#)

54. [Traumatic brain injury and severe uncontrolled haemorrhage with short delay pre-hospital resuscitation in a swine model.](#)

Teranishi K, Scultetus A, Haque A, Stern S, Philbin N, Rice J, Johnson T, Auken C, McCarron R, Freilich D, Arnaud F.

Injury. 2012 May;43(5):585-93. doi: 10.1016/j.injury.2010.09.042. Epub 2010 Oct 30.

PMID: 21036354 [PubMed - indexed for MEDLINE]

[Similar articles](#)

55. [A comparison of the hemoglobin-based oxygen carrier HBOC-201 to other low-volume resuscitation fluids in a model of controlled hemorrhagic shock.](#)

Sampson JB, Davis MR, Mueller DL, Kashyap VS, Jenkins DH, Kerby JD.

J Trauma. 2003 Oct;55(4):747-54.

PMID: 14566133 [PubMed - indexed for MEDLINE]

[Similar articles](#)

56. [Vasoactivity of bovine polymerized hemoglobin \(HBOC-201\) in swine with traumatic hemorrhagic shock with and without brain injury.](#)

Rice J, Philbin N, Handrigan M, Hall C, McGwin G, Ahlers S, Pearce LB, Arnaud F, McCarron R, Freilich D.

J Trauma. 2006 Nov;61(5):1085-99.

PMID: 17099513 [PubMed - indexed for MEDLINE]

[Similar articles](#)

57. [The polymerized bovine hemoglobin-based oxygen-carrying solution \(HBOC-201\) is not toxic to neural cells in culture.](#)

Ortegon DP, Davis MR, Dixon PS, Smith DL, Josephs JD, Mueller DL, Jenkins DH, Kerby JD.

J Trauma. 2002 Dec;53(6):1068-72.

PMID: 12478030 [PubMed - indexed for MEDLINE]

[Similar articles](#)

58. [A hemoglobin based oxygen carrier, bovine polymerized hemoglobin \(HBOC-201\) versus Hetastarch \(HEX\) in an uncontrolled liver injury hemorrhagic shock swine model with delayed evacuation.](#)

Gurney J, Philbin N, Rice J, Arnaud F, Dong F, Wulster-Radcliffe M, Pearce LB, Kaplan L, McCarron R, Freilich D.

J Trauma. 2004 Oct;57(4):726-38.

PMID: 15514525 [PubMed - indexed for MEDLINE]

[Similar articles](#)

59. [Acute and long-term effects of modified hemoglobin \(HBOC-201\) in a rat model of hypertension and chronic kidney disease.](#)

Baylis C.

Transfusion. 2006 Jul;46(7):1104-11.

PMID: 16836556 [PubMed - indexed for MEDLINE]

[Similar articles](#)

60. [Sodium nitroprusside ameliorates systemic but not pulmonary HBOC-201-induced vasoconstriction: an exploratory study in a swine controlled haemorrhage model.](#)

Arnaud F, Scultetus AH, Haque A, Saha B, Kim B, Auken C, Moon-Massat P, McCarron R, Freilich D.

Resuscitation. 2012 Aug;83(8):1038-45. doi: 10.1016/j.resuscitation.2012.01.018. Epub 2012 Jan 28.

PMID: 22286048 [PubMed - indexed for MEDLINE]

[Similar articles](#)

61. [Preoxygenated hemoglobin-based oxygen carrier HBOC-201 annihilates myocardial ischemia during brief coronary artery occlusion in pigs.](#)

Te Lintel Hekkert M, Dubé GP, Regar E, de Boer M, Vranckx P, van der Giessen WJ, Serruys PW, Duncker DJ.

Am J Physiol Heart Circ Physiol. 2010 Mar;298(3):H1103-13. doi: 10.1152/ajpheart.00667.2009. Epub 2010 Jan 8.

PMID: 20061545 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

62. [Prolonged low-volume resuscitation with HBOC-201 in a large-animal survival model of controlled hemorrhage.](#)

Fitzpatrick CM, Biggs KL, Atkins BZ, Quance-Fitch FJ, Dixon PS, Savage SA, Jenkins DH, Kerby JD.

J Trauma. 2005 Aug;59(2):273-81; discussion 281-3.

PMID: 16294065 [PubMed - indexed for MEDLINE]

[Similar articles](#)

63. [A prospective, randomized comparison of Oxyglobin \(HB-200\) and packed red blood cell transfusion for canine babesiosis.](#)

Zambelli AB, Leisewitz AL.

J Vet Emerg Crit Care (San Antonio). 2009 Feb;19(1):102-12. doi: 10.1111/j.1476-4431.2009.00386.x.

PMID: 19691591 [PubMed - indexed for MEDLINE]

[Similar articles](#)

64. [Lactate measurement interference by hemoglobin-based oxygen carriers \(Oxyglobin, Hemopure, and Hemolink\).](#)

Jahr JS, Osgood S, Rothenberg SJ, Li QL, Butch AW, Gunther R, Cheung A, Driessen B.

Anesth Analg. 2005 Feb;100(2):431-6.

PMID: 15673871 [PubMed - indexed for MEDLINE]

[Similar articles](#)

65. [Hemoglobin-based oxygen carrier preserves submaximal exercise capacity in humans.](#)

Hughes GS Jr, Yancey EP, Albrecht R, Locker PK, Francom SF, Orringer EP, Antal EJ, Jacobs EE Jr.

Clin Pharmacol Ther. 1995 Oct;58(4):434-43.

PMID: 7586936 [PubMed - indexed for MEDLINE]

[Similar articles](#)

66. [Effects of a hemoglobin-based oxygen carrier \(HBOC-201\) on coagulation testing.](#)

Jahr JS, Lurie F, Gosselin R, Lin JS, Wong L, Larkin E.

Clin Lab Sci. 2000 Fall;13(4):210-4.

PMID: 11586506 [PubMed - indexed for MEDLINE]

[Similar articles](#)

67. [Tissue oxygen monitoring during hemorrhagic shock and resuscitation: a comparison of lactated Ringer's solution, hypertonic saline dextran, and HBOC-201.](#)

Knudson MM, Lee S, Erickson V, Morabito D, Derugin N, Manley GT.

J Trauma. 2003 Feb;54(2):242-52.

PMID: 12579047 [PubMed - indexed for MEDLINE]

[Similar articles](#)

68. [The effect of the bovine hemoglobin oxygen therapeutic HBOC-201 on human neutrophil activation in vitro.](#)

Ortegon DP, Dixon PS, Crow KK, Mueller DL, Kerby JD.

J Trauma. 2003 Oct;55(4):755-60; discussion 760-1.

PMID: 14566134 [PubMed - indexed for MEDLINE]

[Similar articles](#)

69. [Enhanced central organ oxygenation after application of bovine cell-free hemoglobin HBOC-201.](#)

Freitag M, Standl TG, Gottschalk A, Burmeister MA, Rempf C, Horn EP, Strate T, Schulte Am Esch J.

Can J Anaesth. 2005 Nov;52(9):904-14.

PMID: 16251554 [PubMed - indexed for MEDLINE]

[Similar articles](#)

70. [When blood is not an option: factors affecting survival after the use of a hemoglobin-based oxygen carrier in 54 patients with life-threatening anemia.](#)
Mackenzie CF, Moon-Massat PF, Shander A, Javidroozi M, Greenburg AG.
Anesth Analg. 2010 Mar 1;110(3):685-93. doi: 10.1213/ANE.0b013e3181cd473b.
PMID: 20042443 [PubMed - indexed for MEDLINE]
[Similar articles](#)
71. [HBOC-201 improves survival in a swine model of hemorrhagic shock and liver injury.](#)
Katz LM, Manning JE, McCurdy S, Pearce LB, Gawryl MS, Wang Y, Brown C;
Carolina Resuscitation Research Group.
Resuscitation. 2002 Jul;54(1):77-87.
PMID: 12104112 [PubMed - indexed for MEDLINE]
[Similar articles](#)
72. [Haemoglobin-based oxygen carriers: indications and future applications.](#)
Njoku M, St Peter D, Mackenzie CF.
Br J Hosp Med (Lond). 2015 Feb;76(2):78-83. doi: 10.12968/hmed.2015.76.2.78.
Review.
PMID: 25671471 [PubMed - indexed for MEDLINE]
[Similar articles](#)
73. [Small-volume resuscitation with HBOC-201: effects on cardiovascular parameters and brain tissue oxygen tension in an out-of-hospital model of hemorrhage in swine.](#)
Lee SK, Morabito D, Hemphill JC, Erickson V, Holcroft JJ, Derugin N, Knudson MM,
Manley GT.
Acad Emerg Med. 2002 Oct;9(10):969-76.
PMID: 12359531 [PubMed - indexed for MEDLINE] **Free Article**
[Similar articles](#)
74. [Immune effects of resuscitation with HBOC-201, a hemoglobin-based oxygen carrier, in swine with moderately severe hemorrhagic shock from controlled hemorrhage.](#)
Dong F, Hall CH, Golech SA, Philbin NB, Rice JP, Gurney J, Arnaud FG, Hammett M,
Ma X, Flournoy WS, Hong J, Kaplan LJ, Pearce LB, McGwin G, Ahlers S,
McCarron R, Freilich D.
Shock. 2006 Jan;25(1):50-5.
PMID: 16369186 [PubMed - indexed for MEDLINE]
[Similar articles](#)

75. [Hemoglobin-based oxygen carrier HBOC-201 provides higher and faster increase in oxygen tension in skeletal muscle of anemic dogs than do stored red blood cells.](#)
Standl T, Freitag M, Burmeister MA, Horn EP, Wilhelm S, Am Esch JS.
J Vasc Surg. 2003 Apr;37(4):859-65.
PMID: 12663989 [PubMed - indexed for MEDLINE] **Free Article**
[Similar articles](#)
76. [Effect of the hemoglobin-based oxygen carrier HBOC-201 on laboratory instrumentation: cobas integra, chiron blood gas analyzer 840, Sysmex SE-9000 and BCT.](#)
Wolthuis A, Peek D, Scholten R, Moreira P, Gawryl M, Clark T, Westerhuis L.
Clin Chem Lab Med. 1999 Jan;37(1):71-6.
PMID: 10094382 [PubMed - indexed for MEDLINE]
[Similar articles](#)
77. [\[Bovine hemoglobin. HBOC-201 causes a reduction of the oxygen partial pressure in poststenotic skeletal muscle\].](#)
Horn EP, Standl T, Wilhelm S, Jacobs EE, Freitag U, Freitag M, Schulte am Esch J.
Anaesthesist. 1998 Feb;47(2):116-23. German.
PMID: 9530461 [PubMed - indexed for MEDLINE]
[Similar articles](#)
78. [Anti-N and anti-Do^a immunoglobulin G alloantibody-mediated delayed hemolytic transfusion reaction with hyperhemolysis in sickle cell disease treated with eculizumab and HBOC-201: case report and review of the literature.](#)
Unnikrishnan A, Pelletier JPR, Bari S, Zumberg M, Shahmohamadi A, Spiess BD, Michael MJ, Harris N, Harrell D, Mandernach MW.
Transfusion. 2019 Feb 15. doi: 10.1111/trf.15198. [Epub ahead of print]
PMID: 30768787 [PubMed - as supplied by publisher]
[Similar articles](#)
79. [A bovine hemoglobin-based oxygen carrier as pump prime for cardiopulmonary bypass: reduced systemic lactic acidosis and improved cerebral oxygen metabolism during low flow in a porcine model.](#)
McNeil JD, Propper B, Walker J, Holguin L, Evans L, Lee K, Fox PT, Michalek JE, Baisden CE.
J Thorac Cardiovasc Surg. 2011 Aug;142(2):411-7. doi: 10.1016/j.jtcvs.2010.11.017.
PMID: 21641005 [PubMed - indexed for MEDLINE] **Free Article**
[Similar articles](#)

80. [Oxyglobin: a transfusion solution?](#)

Hohenhaus AE.

J Vet Intern Med. 2002 Jul-Aug;16(4):394-5. No abstract available.

PMID: 12141299 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

81. [Low-volume resuscitation with a polymerized bovine hemoglobin-based oxygen-carrying solution \(HBOC-201\) provides adequate tissue oxygenation for survival in a porcine model of controlled hemorrhage.](#)

York GB, Eggers JS, Smith DL, Jenkins DH, McNeil JD, Mueller D, Josephs JD, Kerby JD.

J Trauma. 2003 Nov;55(5):873-85.

PMID: 14608160 [PubMed - indexed for MEDLINE]

[Similar articles](#)

82. [Effects of a hemoglobin-based oxygen carrier \(HBOC-201\) on hemodynamics and oxygen transport in patients undergoing preoperative hemodilution for elective abdominal aortic surgery.](#)

Kasper SM, Walter M, Grüne F, Bischoff A, Erasmi H, Buzello W.

Anesth Analg. 1996 Nov;83(5):921-7.

PMID: 8895264 [PubMed - indexed for MEDLINE]

[Similar articles](#)

83. [Hemoglobin-Based Oxygen Carrier Rescues Double-Transplant Patient From Life-Threatening Anemia.](#)

Gomez MF, Aljure O, Ciancio G, Lynn M.

Am J Transplant. 2017 Jul;17(7):1941-1944. doi: 10.1111/ajt.14226. Epub 2017 Mar 17.

PMID: 28188676 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

84. [The effects of hemoglobin glutamer-200 and iNO on pulmonary vascular tone and arterial oxygenation in an experimental acute respiratory distress syndrome.](#)

Voelker MT, Bergmann A, Busch T, Jahn N, Laudi S, Noreikat K, Simon P, Bercker S.

Pulm Pharmacol Ther. 2018 Apr;49:130-133. doi: 10.1016/j.pupt.2018.01.009.

Epub 2018 Feb 6.

PMID: 29425776 [PubMed - indexed for MEDLINE]

[Similar articles](#)

85. [Plasma colloid osmotic pressure after blood volume repletion with Oxyglobin, hetastarch, or whole blood in pregnant sheep.](#)
Posner LP, Moon PF, Bliss SP, Gleed RD, Erb HN.
Vet Anaesth Analg. 2001 Apr;28(2):104. doi: 10.1046/j.1467-2987.2001.temp.doc.x-i9. Epub 2016 Nov 15. No abstract available.
PMID: 28404331 [PubMed]
[Similar articles](#)
86. [Absence of developmental toxicity in a canine model after infusion of a hemoglobin-based oxygen carrier: Implications for risk assessment.](#)
Holson JF, Stump DG, Pearce LB, Watson RE, DeSesso JM.
Reprod Toxicol. 2015 Apr;52:101-7. doi: 10.1016/j.reprotox.2015.01.006. Epub 2015 Feb 16.
PMID: 25697570 [PubMed - indexed for MEDLINE]
[Similar articles](#)
87. [Clinical application of a hemoglobin-based oxygen-carrying solution.](#)
Callan MB, Rentko VT.
Vet Clin North Am Small Anim Pract. 2003 Nov;33(6):1277-93, vi. Review.
PMID: 14664199 [PubMed - indexed for MEDLINE]
[Similar articles](#)
88. [Use of hemoglobin-based oxygen-carrying solution-201 to improve resuscitation parameters and prevent secondary brain injury in a swine model of traumatic brain injury and hemorrhage: laboratory investigation.](#)
Rosenthal G, Morabito D, Cohen M, Roeytenberg A, Derugin N, Panter SS, Knudson MM, Manley G.
J Neurosurg. 2008 Mar;108(3):575-87. doi: 10.3171/JNS/2008/108/3/0575.
PMID: 18312106 [PubMed - indexed for MEDLINE]
[Similar articles](#)
89. [Hematology patterns after hemoglobin-based oxygen carrier resuscitation from severe controlled hemorrhage with prolonged delayed definitive care.](#)
Arnaud F, Fasipe D, Philbin N, Rice J, Flournoy WS, Ahlers S, McCarron R, Freilich D.
Transfusion. 2007 Nov;47(11):2098-109.
PMID: 17958540 [PubMed - indexed for MEDLINE]
[Similar articles](#)
90. [Haemodynamic effects, safety, and tolerability of haemoglobin-based oxygen carrier-201 in patients undergoing PCI for CAD.](#)

Serruys PW, Vranckx P, Slagboom T, Regar E, Meliga E, de Winter RJ, Heyndrickx G, Schuler G, van Remortel EA, Dubé GP, Symons J.

EuroIntervention. 2008 Mar;3(5):600-9.

PMID: 19608488 [PubMed]

[Similar articles](#)

91. [Hemoglobin substitutes.](#)

Anbari KK, Garino JP, Mackenzie CF.

Eur Spine J. 2004 Oct;13 Suppl 1:S76-82. Epub 2004 May 27. Review.

PMID: 15168238 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

92. [Resuscitation following severe, controlled hemorrhage associated with a 24 h delay to surgical intervention in swine using a hemoglobin based oxygen carrier as an oxygen bridge to definitive care.](#)

Philbin N, Handrigan M, Rice J, McNickle K, McGwin G, Williams R, Warndorf M, Arnaud F, Malkevich N, McCarron R, Freilich D.

Resuscitation. 2007 Aug;74(2):332-43. Epub 2007 Mar 23.

PMID: 17383073 [PubMed - indexed for MEDLINE]

[Similar articles](#)

93. [Crosslinked, polymerized, and PEG-conjugated hemoglobin-based oxygen carriers: clinical safety and efficacy of recent and current products.](#)

Jahr JS, Akha AS, Holtby RJ.

Curr Drug Discov Technol. 2012 Sep;9(3):158-65. Review.

PMID: 21745179 [PubMed - indexed for MEDLINE]

[Similar articles](#)

94. [HBOC-201 as an alternative to blood transfusion: efficacy and safety evaluation in a multicenter phase III trial in elective orthopedic surgery.](#)

Jahr JS, Mackenzie C, Pearce LB, Pitman A, Greenburg AG.

J Trauma. 2008 Jun;64(6):1484-97. doi: 10.1097/TA.0b013e318173a93f.

PMID: 18545113 [PubMed - indexed for MEDLINE]

[Similar articles](#)

95. [Xenotransfusion with canine blood in the feline species: review of the literature.](#)

Bovens C, Gruffydd-Jones T.

J Feline Med Surg. 2013 Feb;15(2):62-7. doi: 10.1177/1098612X12460530. Epub 2012 Sep 14. Review.

PMID: 22983454 [PubMed - indexed for MEDLINE]

[Similar articles](#)

96. [Management of acute anemia in a Jehovah's Witness patient with acute lymphoblastic leukemia with polymerized bovine hemoglobin-based oxygen carrier: a case report and review of literature.](#)

Donahue LL, Shapira I, Shander A, Kolitz J, Allen S, Greenburg G.

Transfusion. 2010 Jul;50(7):1561-7. doi: 10.1111/j.1537-2995.2010.02603.x. Epub 2010 Apr 23. Review.

PMID: 20456679 [PubMed - indexed for MEDLINE]

[Similar articles](#)

97. [Extracorporeal membrane oxygenation in piglets using a polymerized bovine hemoglobin-based oxygen-carrying solution \(HBOC-201\).](#)

York GB, DiGeronimo RJ, Wilson BJ, Cofer BR, Breuer CK, Josephs JD, Smith DL, Sorrells DL.

J Pediatr Surg. 2002 Oct;37(10):1387-92.

PMID: 12378440 [PubMed - indexed for MEDLINE]

[Similar articles](#)

98. [Bovine polymerized hemoglobin versus Hextend resuscitation in a swine model of severe controlled hemorrhagic shock with delay to definitive care.](#)

Rice J, Philbin N, McGwin G, Arnaud F, Johnson T, Flournoy WS, Pearce LB, McCarron R, Kaplan L, Handrigan M, Freilich D.

Shock. 2006 Sep;26(3):302-10.

PMID: 16912657 [PubMed - indexed for MEDLINE]

[Similar articles](#)

99. [Dose response of sodium nitrite on vasoactivity associated with HBOC-201 in a swine model of controlled hemorrhage.](#)

Arnaud F, Scultetus AH, Kim B, Haque A, Saha B, Nigam S, Moon-Massat P, Auken C, McCarron R, Freilich D.

Artif Cells Blood Substit Immobil Biotechnol. 2011 Aug;39(4):195-205. doi: 10.3109/10731199.2010.533126. Epub 2010 Dec 6.

PMID: 21133651 [PubMed - indexed for MEDLINE]

[Similar articles](#)

100. [Effect of Hemopure on the performance of Ektachem and Hitachi clinical analyzers.](#)

Moreira PL, Lansden CC, Clark TL, Gawryl MS.

Clin Chem. 1997 Sep;43(9):1790-1. No abstract available.

PMID: 9299981 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

101. [Blood substitutes as pharmacotherapies in clinical practice.](#)

Jahr JS, Walker V, Manoochehri K.

Curr Opin Anaesthesiol. 2007 Aug;20(4):325-30. Review.

PMID: 17620840 [PubMed - indexed for MEDLINE]

[Similar articles](#)

102. [The effects of a blood-salvaging device on blood containing a hemoglobin-based oxygen carrier, HBOC-201.](#)

Wahr JA, Anderson MM, Giacherio DA, Hallock L, Gawryl MS, Lansden C, Tremper KK.

J Cardiothorac Vasc Anesth. 1997 Feb;11(1):10-2.

PMID: 9058212 [PubMed - indexed for MEDLINE]

[Similar articles](#)

103. [A novel hemoglobin-based blood substitute protects against myocardial reperfusion injury.](#)

Caswell JE, Strange MB, Rimmer DM 3rd, Gibson MF, Cole P, Lefer DJ.

Am J Physiol Heart Circ Physiol. 2005 Apr;288(4):H1796-801.

PMID: 15772335 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

104. [Bovine hemoglobin-based oxygen-carrying solution \(HBOC-201\) improves flap survival in a rat model of epigastric flap failure.](#)

Ortegon DP, Davis MR, Sampson JB, Dick EJ, Kashyap V, Kerby JD.

Microsurgery. 2006;26(3):203-6.

PMID: 16493668 [PubMed - indexed for MEDLINE]

[Similar articles](#)

105. [Effects of a novel hemoglobin-based oxygen carrier on percent oxygen saturation as determined with arterial blood gas analysis and pulse oximetry.](#)

Hughes GS, Francom SF, Antal EJ, Adams WJ, Locker PK, Yancey EP, Jacobs EE.

Ann Emerg Med. 1996 Feb;27(2):164-9.

PMID: 8629746 [PubMed - indexed for MEDLINE]

[Similar articles](#)

106. [Resuscitation from hemorrhagic shock with HBOC-201 in the setting of traumatic brain injury.](#)

Kerby JD, Sainz JG, Zhang F, Hutchings A, Sprague S, Farrokhi FR, Son M.

Shock. 2007 Jun;27(6):652-6.

PMID: 17505305 [PubMed - indexed for MEDLINE]

[Similar articles](#)

107. [Hemoglobin-based oxygen carrier does not improve survival of ischemic rat island groin flaps.](#)

Hofeling AD, Bello G, Jackson I, Jackson AH, Kim E.

J Invest Surg. 2006 Sep-Oct;19(5):299-305.

PMID: 16966208 [PubMed - indexed for MEDLINE]

[Similar articles](#)

108. [Innate immune responses in Swine resuscitated from severe traumatic hemorrhagic shock with hemoglobin-based oxygen carrier-201.](#)

Hall C, Malkevich N, Handrigan M, Vandermolen C, Arnaud F, Hong J, Dong F, Rice J, Philbin N, Ahlers S, McCarron R, Freilich D, McGwin G, Flournoy WS, Pearce LB.

Artif Cells Blood Substit Immobil Biotechnol. 2007;35(3):259-74.

PMID: 17573626 [PubMed - indexed for MEDLINE]

[Similar articles](#)

109. [New and future resuscitation fluids for trauma patients using hemoglobin and hypertonic saline.](#)

Galvagno SM Jr, Mackenzie CF.

Anesthesiol Clin. 2013 Mar;31(1):1-19. doi: 10.1016/j.anclin.2012.10.004. Epub 2012 Dec 6. Review.

PMID: 23351531 [PubMed - indexed for MEDLINE]

[Similar articles](#)

110. [Bovine polymerized hemoglobin \(hemoglobin-based oxygen carrier-201\) resuscitation in three swine models of hemorrhagic shock with militarily relevant delayed evacuation--effects on histopathology and organ function.](#)

Johnson T, Arnaud F, Dong F, Philbin N, Rice J, Asher L, Arrisueno M, Warndorf M, Gurney J, McGwin G, Kaplan L, Flournoy WS, Apple FS, Pearce LB, Ahlers S, McCarron R, Freilich D.

Crit Care Med. 2006 May;34(5):1464-74.

PMID: 16540964 [PubMed - indexed for MEDLINE]

[Similar articles](#)

111. [Bovine haemoglobin-based oxygen carrier for patients undergoing haemodilution before liver resection.](#)

Standl T, Burmeister MA, Horn EP, Wilhelm S, Knoefel WT, Schulte am Esch J.

Br J Anaesth. 1998 Feb;80(2):189-94.

PMID: 9602583 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

112. [Hypotensive resuscitation using a polymerized bovine hemoglobin-based oxygen-carrying solution \(HBOC-201\) leads to reversal of anaerobic metabolism.](#)

McNeil CJ, Smith LD, Jenkins LD, York MG, Josephs MJ.

J Trauma. 2001 Jun;50(6):1063-75.

PMID: 11426122 [PubMed - indexed for MEDLINE]

[Similar articles](#)

113. [Feline non-regenerative immune-mediated anaemia: features and outcome in 15 cases.](#)

Black V, Adamantos S, Barfield D, Tasker S.

J Feline Med Surg. 2016 Aug;18(8):597-602. doi: 10.1177/1098612X15588800.

Epub 2015 Jun 26.

PMID: 26116621 [PubMed - indexed for MEDLINE]

[Similar articles](#)

114. [Hemoglobin-based oxygen carrier \(HBOC-201\) and escalating doses of recombinant factor VIIa \(rFVIIa\) as a novel pre-hospital resuscitation fluid in a swine model of severe uncontrolled hemorrhage.](#)

Scultetus A, Arnaud F, Kaplan L, Shander A, Philbin N, Rice J, McCarron R, Freilich D.

Artif Cells Blood Substit Immobil Biotechnol. 2011 Apr;39(2):59-68. doi: 10.3109/10731199.2010.501755. Epub 2010 Jul 20.

PMID: 20645681 [PubMed - indexed for MEDLINE]

[Similar articles](#)

115. [Hemopure transfusion in a child with severe anemia.](#)

Stefan DC, Uys R, Wessels G.

Pediatr Hematol Oncol. 2007 Jun;24(4):269-73.

PMID: 17613869 [PubMed - indexed for MEDLINE]

[Similar articles](#)

116. [Innate immune response after resuscitation with hemoglobin-based oxygen carrier and recombinant factor VIIA in uncontrolled hemorrhagic shock in a swine model.](#)

Malkevich NV, Dong F, Vandermolen CA, Philbin NB, Rice JP, Scultetus A, Hong J, Arnaud F, Hall CH, McGwin G Jr, Pearce LB, Handrigan M, Ahlers S, McCarron RM, Freilich D.

J Trauma. 2008 Jun;64(6):1498-510. doi: 10.1097/TA.0b013e3181454a05.
PMID: 18545114 [PubMed - indexed for MEDLINE]

[Similar articles](#)

117. [Prehospital HBOC-201 after traumatic brain injury and hemorrhagic shock in swine.](#)

Patel MB, Feinstein AJ, Saenz AD, Majetschak M, Proctor KG.

J Trauma. 2006 Jul;61(1):46-56.

PMID: 16832248 [PubMed - indexed for MEDLINE]

[Similar articles](#)

118. [Effects of hemodilution with a hemoglobin-based oxygen carrier \(HBOC-201\) on ischemia/reperfusion injury in a model of partial warm liver ischemia of the rat.](#)

Zapletal C, Bode A, Lorenz MW, Gebhard MM, Golling M.

Microvasc Res. 2009 Dec;78(3):386-92. doi: 10.1016/j.mvr.2009.08.005. Epub 2009 Aug 26.

PMID: 19715706 [PubMed - indexed for MEDLINE]

[Similar articles](#)

119. [The use of a hemoglobin-based oxygen-carrying solution \(HBOC-201\) for extracorporeal membrane oxygenation in a porcine model with acute respiratory distress syndrome.](#)

Henderson CL, Anderson CM, Sorrells DL, Wilson BJ, Dick EJ, DiGeronimo RJ.

Pediatr Crit Care Med. 2004 Jul;5(4):384-90.

PMID: 15215011 [PubMed - indexed for MEDLINE]

[Similar articles](#)

120. [Hematologic effects of a novel hemoglobin-based oxygen carrier in normal male and female subjects.](#)

Hughes GS Jr, Francome SF, Antal EJ, Adams WJ, Locker PK, Yancey EP, Jacobs EE Jr.

J Lab Clin Med. 1995 Nov;126(5):444-51.

PMID: 7595029 [PubMed - indexed for MEDLINE]

[Similar articles](#)

121. [Small-volume resuscitation with the hemoglobin substitute HBOC-201: effect on brain tissue oxygenation.](#)

Manley GT, Hemphill JC, Morabito D, Erickson V, Holcroft JJ, Derugin N, Knudson MM.

Adv Exp Med Biol. 2003;530:311-7.

PMID: 14562727 [PubMed - indexed for MEDLINE]

[Similar articles](#)

122. [Administration of polymerized bovine hemoglobin improves survival in a rat model of traumatic shock.](#)

Hayward R, Lefer AM.

Methods Find Exp Clin Pharmacol. 1999 Jul-Aug;21(6):427-33.

PMID: 10445236 [PubMed - indexed for MEDLINE]

[Similar articles](#)

123. [A polymerized bovine hemoglobin oxygen carrier preserves regional myocardial function and reduces infarct size after acute myocardial ischemia.](#)

George I, Yi GH, Schulman AR, Morrow BT, Cheng Y, Gu A, Zhang G, Oz MC, Burkhoff D, Wang J.

Am J Physiol Heart Circ Physiol. 2006 Sep;291(3):H1126-37. Epub 2006 Apr 14.

PMID: 16617139 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

124. [Differential sensitivities of pulmonary and coronary arteries to hemoglobin-based oxygen carriers and nitrovasodilators: study in a bovine ex vivo model of vascular strips.](#)

Fonseca V, Avizinis J, Moon-Massat P, Freilich D, Kim HW, Hai CM.

Vascul Pharmacol. 2010 May-Jun;52(5-6):215-23. doi: 10.1016/j.vph.2009.12.005. Epub 2009 Dec 22.

PMID: 20026426 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

125. [Effect of Hemopure on prothrombin time and activated partial thromboplastin time on seven coagulation analyzers.](#)

Moreira PL, Lansden CC, Clark TL, Gawryl MS.

Clin Chem. 1997 Sep;43(9):1792. No abstract available.

PMID: 9299982 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

126. [Microcirculatory effects of a hyperviscous hemoglobin-based solution administered intravenously in dogs with experimentally induced hemorrhagic shock.](#)

Peruski AM, Cooper ES, Butler AL.

Am J Vet Res. 2014 Jan;75(1):77-84. doi: 10.2460/ajvr.75.1.77.

PMID: 24370249 [PubMed - indexed for MEDLINE]

[Similar articles](#)

127. [Proof-of-concept trial to evaluate haemoglobin based oxygen therapeutics in elective percutaneous coronary revascularisation. Rationale, protocol design and haemodynamic results.](#)
Meliga E, Vranckx P, Regar E, Kint PP, Duncker DJ, Serruys PW.
EuroIntervention. 2008 May;4(1):99-107.
PMID: 19112786 [PubMed - indexed for MEDLINE]
[Similar articles](#)
128. [Haemoglobin-based erythrocyte transfusion substitutes.](#)
Standl T.
Expert Opin Biol Ther. 2001 Sep;1(5):831-43. Review.
PMID: 11728218 [PubMed - indexed for MEDLINE]
[Similar articles](#)
129. [A phase I/II study of polymerized bovine hemoglobin in adult patients with sickle cell disease not in crisis at the time of study.](#)
Gonzalez P, Hackney AC, Jones S, Strayhorn D, Hoffman EB, Hughes G, Jacobs EE, Orringer EP.
J Investig Med. 1997 Jun;45(5):258-64.
PMID: 9249998 [PubMed - indexed for MEDLINE]
[Similar articles](#)
130. [A review of blood substitutes: examining the history, clinical trial results, and ethics of hemoglobin-based oxygen carriers.](#)
Chen JY, Scerbo M, Kramer G.
Clinics (Sao Paulo). 2009;64(8):803-13. doi: 10.1590/S1807-59322009000800016. Review.
PMID: 19690667 [PubMed - indexed for MEDLINE] **Free PMC Article**
[Similar articles](#)
131. [Clinical update: Hemopure\(r\) - a room temperature stable hemoglobin oxygen carrier.](#)
Jacobs E.
Anesthesiol Intensivmed Notfallmed Schmerzther. 2001 Nov;36 Suppl 2:S121-2.
No abstract available.
PMID: 11753717 [PubMed - indexed for MEDLINE]
[Similar articles](#)
132. [Developmental toxicity in rats of a hemoglobin-based oxygen carrier results from impeded function of the inverted visceral yolk sac.](#)
Stump DG, Holson JF, Harris C, Pearce LB, Watson RE, DeSesso JM.

Reprod Toxicol. 2015 Apr;52:108-17. doi: 10.1016/j.reprotox.2015.01.005. Epub 2015 Jan 21.

PMID: 25617809 [PubMed - indexed for MEDLINE]

[Similar articles](#)

133. [Effects of prophylactic or therapeutic application of bovine haemoglobin HBOC-200 on ischaemia-reperfusion injury following acute coronary ligation in rats.](#)

Burmeister MA, Rempf C, Standl TG, Rehberg S, Bartsch-Zwemke S, Krause T, Tuszynski S, Gottschalk A, Schulte am Esch J.

Br J Anaesth. 2005 Dec;95(6):737-45. Epub 2005 Oct 14.

PMID: 16227339 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

134. [Hemoglobin-based oxygen carriers.](#)

Greenburg AG, Kim HW.

Crit Care. 2004;8 Suppl 2:S61-4. Epub 2004 Jun 14. Review.

PMID: 15196328 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

135. [The effects of decreasing low-molecular weight hemoglobin components of hemoglobin-based oxygen carriers in swine with hemorrhagic shock.](#)

Rice J, Philbin N, Light R, Arnaud F, Steinbach T, McGwin G, Collier S, Malkevich N, Moon-Massatt P, Rentko V, Pearce LB, Ahlers S, McCarron R, Handrigan M, Freilich D.

J Trauma. 2008 May;64(5):1240-57. doi: 10.1097/TA.0b013e318058245e.

PMID: 18469646 [PubMed - indexed for MEDLINE]

[Similar articles](#)

136. [Polymerized bovine hemoglobin solution as a replacement for allogeneic red blood cell transfusion after cardiac surgery: results of a randomized, double-blind trial.](#)

Levy JH, Goodnough LT, Greilich PE, Parr GV, Stewart RW, Gratz I, Wahr J, Williams J, Comunale ME, Doblar D, Silvay G, Cohen M, Jahr JS, Vlahakes GJ.

J Thorac Cardiovasc Surg. 2002 Jul;124(1):35-42.

PMID: 12091806 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

137. [Hemopure's process demonstrates TSE and viral clearance.](#)

Laccetti A, Bagai J, Gawryl MS, Light WR.

Dev Biol (Basel). 2005;120:35-6. No abstract available.

PMID: 16050153 [PubMed - indexed for MEDLINE]

[Similar articles](#)

138. [Fetal oxygen content is restored with Oxyglobin resuscitation after maternal hemorrhage.](#)

Moon PF, Bliss SP, Posner LP, Erb HN, Nathanielsz PW.

Vet Anaesth Analg. 2001 Apr;28(2):104-105. doi: 10.1046/j.1467-2987.2001.temp.doc.x-i10. Epub 2016 Nov 15. No abstract available.

PMID: 28404333 [PubMed]

[Similar articles](#)

139. [Does lead interfere with hemoglobin-based oxygen carrier \(HBOC\) function? A pilot study of lead concentrations in three approved or tested HBOCs and oxyhemoglobin dissociation with HBOCs and/or bovine blood with varying lead concentrations.](#)

Khan AK, Jahr JS, Nesargi S, Rothenberg SJ, Tang Z, Cheung A, Gunther RA, Kost GJ, Driessen B.

Anesth Analg. 2003 Jun;96(6):1813-20, table of contents.

PMID: 12761018 [PubMed - indexed for MEDLINE]

[Similar articles](#)

140. [Cell-free hemoglobin-based blood substitutes and risk of myocardial infarction and death: a meta-analysis.](#)

Natanson C, Kern SJ, Lurie P, Banks SM, Wolfe SM.

JAMA. 2008 May 21;299(19):2304-12. doi: 10.1001/jama.299.19.jrv80007. Epub 2008 Apr 28. Erratum in: JAMA. 2008 Sep 17;300(11): 1300.

PMID: 18443023 [PubMed - indexed for MEDLINE]

[Similar articles](#)

141. [Polymerized bovine hemoglobin \(Oxyglobin Solution\) administration in two river otters \(*Lutra canadensis*\).](#)

McEwen MM, Moon-Massat PF, Butler EC, Kollias GV.

Vet Anaesth Analg. 2001 Oct;28(4):214-219. doi: 10.1046/j.1467-2987.2001.00055.x. Epub 2016 Nov 15.

PMID: 28404257 [PubMed]

[Similar articles](#)

142. [Inhaled nitric oxide enables artificial blood transfusion without hypertension.](#)

Yu B, Raher MJ, Volpato GP, Bloch KD, Ichinose F, Zapol WM.

Circulation. 2008 Apr 15;117(15):1982-90. doi: 10.1161/CIRCULATIONAHA.107.729137. Epub 2008 Apr 7.

PMID: 18391111 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

143. [Are i-STAT results adversely affected by an artificial blood substitute in vivo?](#)

Estrada RR.

Mil Med. 2006 May;171(5):381-8.

PMID: 16761886 [PubMed - indexed for MEDLINE]

[Similar articles](#)

144. [Primary immune-mediated thrombocytopenia in cats.](#)

Wondratschek C, Weingart C, Kohn B.

J Am Anim Hosp Assoc. 2010 Jan-Feb;46(1):12-9.

PMID: 20045832 [PubMed - indexed for MEDLINE]

[Similar articles](#)

145. [Cardiopulmonary interventions to decrease blood loss and blood transfusion requirements for liver resection.](#)

Gurusamy KS, Li J, Vaughan J, Sharma D, Davidson BR.

Cochrane Database Syst Rev. 2012 May 16;(5):CD007338. doi: 10.1002/14651858.CD007338.pub3. Review.

PMID: 22592720 [PubMed - indexed for MEDLINE]

[Similar articles](#)

146. [Selective aortic arch perfusion with hemoglobin-based oxygen carrier-201 for resuscitation from exsanguinating cardiac arrest in swine.](#)

Manning JE, Katz LM, Pearce LB, Batson DN, McCurdy SL, Gawryl MS, Baker CC.

Crit Care Med. 2001 Nov;29(11):2067-74.

PMID: 11700396 [PubMed - indexed for MEDLINE]

[Similar articles](#)

147. [The novel HemoCu plasma/low hemoglobin system accurately measures small concentrations of three different hemoglobin-based oxygen carriers in plasma: hemoglobin glutamer-200 \(bovine\) \(Oxyglobin\), hemoglobin glutamer-250 \(bovine\) \(Hemopure\), and hemoglobin-Raffimer \(Hemolink\).](#)

Lurie F, Jahr JS, Driessen B.

Anesth Analg. 2002 Oct;95(4):870-3, table of contents.

PMID: 12351259 [PubMed - indexed for MEDLINE]

[Similar articles](#)

148. [\[Preoperative hemodilution with bovine hemoglobin. Acute hemodynamic effects in liver surgery patients \].](#)

Standl T, Wilhelm S, Horn EP, Burmeister M, Gundlach M, Schulte am Esch J. Anaesthesist. 1997 Sep;46(9):763-70. German.

PMID: 9412256 [PubMed - indexed for MEDLINE]

[Similar articles](#)

149. [The reduction of the allogenic transfusion requirement in aortic surgery with a hemoglobin-based solution.](#)

LaMuraglia GM, O'Hara PJ, Baker WH, Naslund TC, Norris EJ, Li J, Vandermeersch E.

J Vasc Surg. 2000 Feb;31(2):299-308.

PMID: 10664499 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

150. [In vitro effects of a novel hemoglobin-based oxygen carrier on routine chemistry, therapeutic drug, coagulation, hematology, and blood bank assays.](#)

Callas DD, Clark TL, Moreira PL, Lansden C, Gawryl MS, Kahn S, Bermes EW Jr. Clin Chem. 1997 Sep;43(9):1744-8.

PMID: 9299970 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

151. [Oxygen therapeutics: oxygen delivery without blood.](#)

Stollings JL, Oyen LJ.

Pharmacotherapy. 2006 Oct;26(10):1453-64. Review.

PMID: 16999656 [PubMed - indexed for MEDLINE]

[Similar articles](#)

152. [Prehospital hemoglobin-based oxygen carrier resuscitation attenuates postinjury acute lung injury.](#)

Masuno T, Moore EE, Cheng AM, Moore PK, Grant AR, Johnson JL.

Surgery. 2005 Aug;138(2):335-41.

PMID: 16153445 [PubMed - indexed for MEDLINE]

[Similar articles](#)

153. [Resuscitation from hemorrhagic shock: fluid selection and infusion strategy drives unmeasured ion genesis.](#)

Kaplan LJ, Philbin N, Arnaud F, Rice J, Dong F, Freilich D.

J Trauma. 2006 Jul;61(1):90-7; discussion 97-8.

PMID: 16832254 [PubMed - indexed for MEDLINE]

[Similar articles](#)

154. [Long-term transfusion of polymerized bovine hemoglobin in a Jehovah's Witness following chemotherapy for myeloid leukemia: a case report.](#)
Agrawal YP, Freedman M, Szczepiorkowski ZM.
Transfusion. 2005 Nov;45(11):1735-8.
PMID: 16271098 [PubMed - indexed for MEDLINE]
[Similar articles](#)
155. [Artificial oxygen carriers: a current review.](#)
Henkel-Honke T, Oleck M.
AANA J. 2007 Jun;75(3):205-11. Review.
PMID: 17591302 [PubMed - indexed for MEDLINE]
[Similar articles](#)
156. [Immune effects of decreasing low-molecular weight hemoglobin components of hemoglobin-based oxygen carriers \(HBOC\) in a swine model of severe controlled hemorrhagic shock.](#)
VanderMolen C, Malkevich N, Philbin N, Rice J, Collier S, Hall C, Ahlers S, McCarron R, Freilich D, McGwin G, Pearce LB.
Artif Cells Blood Substit Immobil Biotechnol. 2007;35(5):507-17.
PMID: 17922315 [PubMed - indexed for MEDLINE]
[Similar articles](#)
157. [Blood substitutes in surgery.](#)
Cohn SM.
Surgery. 2000 Jun;127(6):599-602. Review. No abstract available.
PMID: 10840352 [PubMed - indexed for MEDLINE]
[Similar articles](#)
158. [Effects of bovine polymerized hemoglobin on coagulation in controlled hemorrhagic shock in swine.](#)
Arnaud F, Hammett M, Asher L, Philbin N, Rice J, Dong F, Pearce B, Flournoy WS, Nicholson C, McCarron R, Freilich D.
Shock. 2005 Aug;24(2):145-52.
PMID: 16044085 [PubMed - indexed for MEDLINE]
[Similar articles](#)
159. [Resuscitation with a hemoglobin-based oxygen carrier after traumatic brain injury.](#)
King DR, Cohn SM, Proctor KG.
J Trauma. 2005 Sep;59(3):553-60; discussion 560-2.
PMID: 16361895 [PubMed - indexed for MEDLINE]

[Similar articles](#)

160. [Difficult to swallow: warm autoimmune hemolytic anemia in a Jehovah's Witness treated with hemoglobin concentrate complicated by achalasia.](#)

Epperla N, Strouse C, VanSandt AM, Foy P.

Transfusion. 2016 Jul;56(7):1801-6. doi: 10.1111/trf.13607. Epub 2016 Apr 6.

PMID: 27062564 [PubMed - indexed for MEDLINE]

[Similar articles](#)

161. [Oxygen radical formation does not have an impact in the treatment of severe acute experimental pancreatitis using free cellular hemoglobin.](#)

Kleinhans H, Mann O, Schurr PG, Kaifi JT, Hansen B, Izbicki JR, Strate T.

World J Gastroenterol. 2006 May 14;12(18):2914-8.

PMID: 16718818 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

162. [Absence of immunopathology associated with repeated IV administration of bovine Hb-based oxygen carrier in dogs.](#)

Hamilton RG, Kelly N, Gawryl MS, Rentko VT.

Transfusion. 2001 Feb;41(2):219-25.

PMID: 11239226 [PubMed - indexed for MEDLINE]

[Similar articles](#)

163. [Haemoglobin, oxygen carriers and perioperative organ perfusion.](#)

Kocian R, Spahn DR.

Best Pract Res Clin Anaesthesiol. 2008 Mar;22(1):63-80. Review.

PMID: 18494389 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

164. [Transcranial Doppler sonography mean flow velocity during infusion of ultrapurified bovine hemoglobin.](#)

Brauer P, Standl T, Wilhelm S, Burmeister MA, Schulte am Esch J.

J Neurosurg Anesthesiol. 1998 Jul;10(3):146-52.

PMID: 9681402 [PubMed - indexed for MEDLINE]

[Similar articles](#)

165. [Hemoglobin-based oxygen carriers: disclosed history and the way ahead: the relativity of safety.](#)

Weiskopf RB.

Anesth Analg. 2014 Oct;119(4):758-60. doi: 10.1213/ANE.0000000000000401.

No abstract available.

PMID: 25232689 [PubMed - indexed for MEDLINE]

[Similar articles](#)

166. [Doping control analysis of bovine hemoglobin-based oxygen therapeutics in human plasma by LC-electrospray ionization-MS/MS.](#)

Thevis M, Ogorzalek Loo RR, Loo JA, Schänzer W.

Anal Chem. 2003 Jul 15;75(14):3287-93.

PMID: 14570175 [PubMed - indexed for MEDLINE]

[Similar articles](#)

167. [Resuscitation with a blood substitute causes vasoconstriction without nitric oxide scavenging in a model of arterial hemorrhage.](#)

Fitzpatrick CM, Savage SA, Kerby JD, Clouse WD, Kashyap VS.

J Am Coll Surg. 2004 Nov;199(5):693-701.

PMID: 15501108 [PubMed - indexed for MEDLINE]

[Similar articles](#)

168. [Fluid resuscitation: past, present, and the future.](#)

Santry HP, Alam HB.

Shock. 2010 Mar;33(3):229-41. doi: 10.1097/SHK.0b013e3181c30f0c. Review.

PMID: 20160609 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

169. [Administration of bovine polymerized haemoglobin before and during coronary occlusion reduces infarct size in rabbits.](#)

Rempf C, Standl T, Schenke K, Chammas K, Gottschalk A, Burmeister MA, Gottschalk A.

Br J Anaesth. 2009 Oct;103(4):496-504. doi: 10.1093/bja/aep233. Epub 2009 Aug 26.

PMID: 19710071 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

170. [Bovine hemoglobin \(HBOC-201\) restores tissue oxygen tension during peripheral and coronary artery stenosis under extended hemodilution.](#)

Horn EP, Burmeister MA.

Anesthesiol Intensivmed Notfallmed Schmerzther. 2001 Nov;36 Suppl 2:S117-8. No abstract available.

PMID: 11753715 [PubMed - indexed for MEDLINE]

[Similar articles](#)

171. [Coagulation patterns following haemoglobin-based oxygen carrier resuscitation in severe uncontrolled haemorrhagic shock in swine.](#)
Arnaud F, Handrigan M, Hammett M, Philbin N, Rice J, Dong F, Pearce LB, McCarron R, Freilich D.
Transfus Med. 2006 Aug;16(4):290-302.
PMID: 16879158 [PubMed - indexed for MEDLINE]
[Similar articles](#)
172. [Detection of hemoglobin-based oxygen carriers in human serum for doping analysis: confirmation by size-exclusion HPLC.](#)
Varlet-Marie E, Ashenden M, Lasne F, Sicart MT, Marion B, de Ceaurriz J, Audran M.
Clin Chem. 2004 Apr;50(4):723-31. Epub 2004 Feb 5.
PMID: 14764640 [PubMed - indexed for MEDLINE] **Free Article**
[Similar articles](#)
173. [The effects of a polymerized bovine-derived hemoglobin solution in a rabbit model of arterial thrombosis and bleeding.](#)
Marret E, Bonnin P, Mazoyer E, Riou B, Jacobs T, Coriat P, Samama CM.
Anesth Analg. 2004 Mar;98(3):604-10, table of contents.
PMID: 14980905 [PubMed - indexed for MEDLINE]
[Similar articles](#)
174. [\[Autologous transfusion - from euphoria to reason: clinical practice based on scientific knowledge. \(Part IV\). Artificial oxygen carriers: cell-free hemoglobin solutions -- current status 2004\].](#)
Standl T.
Anesthesiol Intensivmed Notfallmed Schmerzther. 2005 Jan;40(1):38-45. German.
PMID: 15645386 [PubMed - indexed for MEDLINE]
[Similar articles](#)
175. [N-terminal adducts of bovine hemoglobin with glutaraldehyde in a hemoglobin-based oxygen carrier.](#)
Gasthuys M, Alves S, Tabet JC.
Anal Chem. 2005 May 15;77(10):3372-8.
PMID: 15889931 [PubMed - indexed for MEDLINE]
[Similar articles](#)
176. [Effects of low-volume hemoglobin glutamer-200 versus normal saline and arginine vasopressin resuscitation on systemic and skeletal muscle blood flow and oxygenation in a canine hemorrhagic shock model.](#)

Driessen B, Zarucco L, Gunther RA, Burns PM, Lamb SV, Vincent SE, Boston RA, Jahr JS, Cheung AT.

Crit Care Med. 2007 Sep;35(9):2101-9.

PMID: 17581486 [PubMed - indexed for MEDLINE]

[Similar articles](#)

177. [Hematologic effects of recombinant factor VIIa combined with hemoglobin-based oxygen carrier-201 for prehospital resuscitation of swine with severe uncontrolled hemorrhage due to liver injury.](#)

Arnaud F, Hammett M, Philbin N, Scultetus A, McCarron R, Freilich D.

Blood Coagul Fibrinolysis. 2008 Oct;19(7):669-77. doi: 10.1097/MBC.0b013e3283089198.

PMID: 18832908 [PubMed - indexed for MEDLINE]

[Similar articles](#)

178. [Interaction of recombinant octameric hemoglobin with endothelial cells.](#)

Gaucher C, Domingues-Hamdi É, Prin-Mathieu C, Menu P, Baudin-Creuz V.

C R Biol. 2015 Feb;338(2):95-102. doi: 10.1016/j.crv.2014.11.004. Epub 2014 Dec 24.

PMID: 25543885 [PubMed - indexed for MEDLINE]

[Similar articles](#)

179. [Hemoglobin-based oxygen carrier enhanced tumor oxygenation: a novel strategy for cancer therapy.](#)

Gundersen SI, Palmer AF.

Biotechnol Prog. 2008 Nov-Dec;24(6):1353-64. doi: 10.1002/btpr.56.

PMID: 19194950 [PubMed - indexed for MEDLINE]

[Similar articles](#)

180. [The pharmacokinetics of hemoglobin-based oxygen carrier hemoglobin glutamer-200 bovine in the horse.](#)

Soma LR, Uboh CE, Guan F, Luo Y, Moate PJ, Boston RC, Driessen B.

Anesth Analg. 2005 Jun;100(6):1570-5.

PMID: 15920176 [PubMed - indexed for MEDLINE]

[Similar articles](#)

181. [Artificial O2 carriers: status in 2005.](#)

Spahn DR, Kocian R.

Curr Pharm Des. 2005;11(31):4099-114. Review.

PMID: 16378514 [PubMed - indexed for MEDLINE]

[Similar articles](#)

182. [Hemoglobin-based red blood cell substitutes and nitric oxide.](#)

Yu B, Bloch KD, Zapol WM.

Trends Cardiovasc Med. 2009 Apr;19(3):103-7. doi: 10.1016/j.tcm.2009.06.004.

PMID: 19679268 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

183. [A comparison of the acute hemodynamic and delayed effects of 50% exchange transfusion with two different cross-linked hemoglobin based oxygen carrying solutions and Pentastarch.](#)

Bonegio RG, Fuhro R, Ragno G, Robert Valeri C, Lieberthal W.

Artif Cells Blood Substit Immobil Biotechnol. 2006;34(2):145-57.

PMID: 16537171 [PubMed - indexed for MEDLINE]

[Similar articles](#)

184. [Comparison of treatment modalities for hemorrhagic shock.](#)

Cheung AT, To PL, Chan DM, Ramanujam S, Barbosa MA, Chen PC, Driessen B, Jahr JS, Gunther RA.

Artif Cells Blood Substit Immobil Biotechnol. 2007;35(2):173-90.

PMID: 17453703 [PubMed - indexed for MEDLINE]

[Similar articles](#)

185. [Potential of hemoglobin-based oxygen carriers in trauma patients.](#)

Arnoldo BD, Minei JP.

Curr Opin Crit Care. 2001 Dec;7(6):431-6. Review.

PMID: 11805546 [PubMed - indexed for MEDLINE]

[Similar articles](#)

186. [A successful transfusion in a tamandua \(Tamandua tetradactyla\) using both whole blood and blood replacement products.](#)

Raines JA, Storms T.

J Zoo Wildl Med. 2015 Mar;46(1):161-3.

PMID: 25831593 [PubMed - indexed for MEDLINE]

[Similar articles](#)

187. [The HemoCue, a point of care B-hemoglobin photometer, measures hemoglobin concentrations accurately when mixed in vitro with canine plasma and three hemoglobin-based oxygen carriers \(HBOC\).](#)

Jahr JS, Lurie F, Driessen B, Davis JA, Gosselin R, Gunther RA.

Can J Anaesth. 2002 Mar;49(3):243-8.

PMID: 11861341 [PubMed - indexed for MEDLINE]

[Similar articles](#)

188. [Pharmacotherapy in Acutely Anemic Jehovah's Witnesses: An Evidence-Based Review.](#)

McConachie SM, Almadrahi Z, Wahby KA, Wilhelm SM.

Ann Pharmacother. 2018 Sep;52(9):910-919. doi: 10.1177/1060028018766656. Epub 2018 Mar 28.

PMID: 29592539 [PubMed - in process]

[Similar articles](#)

189. [Blood substitute resuscitation as a treatment modality for moderate hypovolemia.](#)

Cheung AT, Driessen B, Jahr JS, Duong PL, Ramanujam S, Chen PC, Gunther RA.

Artif Cells Blood Substit Immobil Biotechnol. 2004 May;32(2):189-207.

PMID: 15274428 [PubMed - indexed for MEDLINE]

[Similar articles](#)

190. [Modern cross-linking strategies for synthesizing acellular hemoglobin-based oxygen carriers.](#)

Harris DR, Palmer AF.

Biotechnol Prog. 2008 Nov-Dec;24(6):1215-25. doi: 10.1002/btpr.85. Review.

PMID: 19194934 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

191. [Vasoactive hemoglobin solution improves survival in hemodilution followed by hemorrhagic shock.](#)

Vázquez BY, Hightower CM, Martini J, Messmer C, Friesenecker B, Corbels P, Tsai AG, Intaglietta M.

Crit Care Med. 2011 Jun;39(6):1461-6. doi: 10.1097/CCM.0b013e3182120cdb.

PMID: 21336111 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

192. [Does methemoglobin from oxidized hemoglobin-based oxygen carrier \(hemoglobin Glutamer-200\) interfere with lactate measurement \(YSI 2700 SELECT Biochemistry Analyzer\)?](#)

Osgood SL, Jahr JS, Desai P, Tsukamoto J, Driessen B.

Anesth Analg. 2005 Feb;100(2):437-9.

PMID: 15673872 [PubMed - indexed for MEDLINE]

[Similar articles](#)

193. [Validation of oxygen saturation measurements in a canine model of hemoglobin based oxygen carrier \(HBOC\) infusion.](#)
Jahr JS, Lurie F, Driessen B, Tang Z, Louie RF, Kullar R, Kost G.
Clin Lab Sci. 2000 Summer;13(2):173-9.
PMID: 14989329 [PubMed - indexed for MEDLINE]
[Similar articles](#)
194. [Use of the ADVIA 120 for differentiating extracellular and intracellular hemoglobin.](#)
March H, Barger A, McCullough S, Schaeffer D, Macwilliams P.
Vet Clin Pathol. 2005 Jun;34(2):106-9.
PMID: 15902660 [PubMed - indexed for MEDLINE]
[Similar articles](#)
195. [Unique tryptic peptides specific for bovine and human hemoglobin in the detection and confirmation of hemoglobin-based oxygen carriers.](#)
Guan F, Uboh C, Soma L, Luo Y, Driessen B.
Anal Chem. 2004 Sep 1;76(17):5118-26.
PMID: 15373451 [PubMed - indexed for MEDLINE]
[Similar articles](#)
196. [All hemoglobin-based oxygen carriers are not created equally.](#)
Buehler PW, Alayash AI.
Biochim Biophys Acta. 2008 Oct;1784(10):1378-81. doi:
10.1016/j.bbapap.2007.12.009. Epub 2008 Jan 3. Review.
PMID: 18206989 [PubMed - indexed for MEDLINE]
[Similar articles](#)
197. [\[Artificial oxygen carriers as an alternative to red blood cell transfusion\].](#)
Habler O, Pape A, Meier J, Zwissler B.
Anaesthesist. 2005 Aug;54(8):741-54. Review. German.
PMID: 16021390 [PubMed - indexed for MEDLINE]
[Similar articles](#)
198. [Validation of oxygen saturation measurements in a canine model of hemoglobin-based oxygen carrier infusion.](#)
Jahr JS, Lurie F, Driessen B, Tang Z, Louie RF, Kost G.
Am J Ther. 2003 Jan-Feb;10(1):21-8.
PMID: 12522516 [PubMed - indexed for MEDLINE]
[Similar articles](#)

199. [The effects of increased doses of bovine hemoglobin on hemodynamics and oxygen transport in patients undergoing preoperative hemodilution for elective abdominal aortic surgery.](#)
Kasper SM, Grüne F, Walter M, Amr N, Erasmi H, Buzello W.
Anesth Analg. 1998 Aug;87(2):284-91.
PMID: 9706917 [PubMed - indexed for MEDLINE]
[Similar articles](#)
200. [Avian transfusion medicine.](#)
Shaw S, Tully T, Nevarez J.
Compend Contin Educ Vet. 2009 Dec;31(12):E1-7; quiz E7. Review.
PMID: 20180223 [PubMed - indexed for MEDLINE]
[Similar articles](#)
201. [Simple identification of a cross-linked hemoglobin by tandem mass spectrometry in human serum.](#)
Gasthuys M, Alves S, Fenaille F, Tabet JC.
Anal Chem. 2004 Nov 15;76(22):6628-34.
PMID: 15538786 [PubMed - indexed for MEDLINE]
[Similar articles](#)
202. [Transfusion medicine in exotic pets.](#)
Lichtenberger M.
Clin Tech Small Anim Pract. 2004 May;19(2):88-95. Review.
PMID: 15179929 [PubMed - indexed for MEDLINE]
[Similar articles](#)
203. [Management of hemorrhagic shock when blood is not an option.](#)
Mackenzie CF, Morrison C, Jaber M, Genuit T, Katamuluwa S, Rodriguez A.
J Clin Anesth. 2008 Nov;20(7):538-41. doi: 10.1016/j.jclinane.2008.05.012. Epub 2008 Nov 18.
PMID: 19019664 [PubMed - indexed for MEDLINE]
[Similar articles](#)
204. [Influence of heme-based solutions on stress protein expression and organ failure after hemorrhagic shock.](#)
Kubulus D, Rensing H, Paxian M, Thierbach JT, Meisel T, Redl H, Bauer M, Bauer I.
Crit Care Med. 2005 Mar;33(3):629-37.
PMID: 15753757 [PubMed - indexed for MEDLINE]

[Similar articles](#)

205. [Detection of hemoglobin-based oxygen carriers in human serum for doping analysis: screening by electrophoresis.](#)

Lasne F, Crepin N, Ashenden M, Audran M, de Ceaurriz J.

Clin Chem. 2004 Feb;50(2):410-5. Epub 2003 Nov 21.

PMID: 14633908 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

206. [Significant blood resistance to nitric oxide transfer in the lung.](#)

Borland CD, Dunningham H, Bottrill F, Vuylsteke A, Yilmaz C, Dane DM, Hsia CC.

J Appl Physiol (1985). 2010 May;108(5):1052-60. doi:

10.1152/japplphysiol.00904.2009. Epub 2010 Feb 11.

PMID: 20150569 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

207. [A synthetic haemoglobin-based oxygen carrier and the reversal of cardiac hypoxia secondary to severe anaemia following trauma.](#)

Fitzgerald MC, Chan JY, Ross AW, Liew SM, Butt WW, Baguley D, Salem HH, Russ MK, Deasy C, Martin KE, Mathew JK, Rosenfeld JV.

Med J Aust. 2011 May 2;194(9):471-3.

PMID: 21534906 [PubMed - indexed for MEDLINE]

[Similar articles](#)

208. [US Navy experience with research on, and development of, hemoglobin-based oxygen carriers.](#)

Auker CR, McCarron RM.

J Trauma. 2011 May;70(5 Suppl):S40-1. doi: 10.1097/TA.0b013e31821a5a1e.

Review. No abstract available.

PMID: 21841570 [PubMed - indexed for MEDLINE]

[Similar articles](#)

209. [The prospects for red-cell substitutes.](#)

Klein HG.

N Engl J Med. 2000 Jun 1;342(22):1666-8. No abstract available.

PMID: 10833216 [PubMed - indexed for MEDLINE]

[Similar articles](#)

210. [Bovine blood and neuromuscular paralysis as a bridge to recovery in a patient with severe autoimmune hemolytic anemia.](#)

Pachinburavan M, Marik PE.

Clin Transl Sci. 2008 Sep;1(2):172-3. doi: 10.1111/j.1752-8062.2008.00006.x.

PMID: 20443842 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

211. [New drugs for childhood anemia.](#)

La Spina M, Russo G.

Minerva Pediatr. 2003 Oct;55(5):483-93, 493-8. Review. English, Italian.

PMID: 14608271 [PubMed - indexed for MEDLINE]

[Similar articles](#)

212. [Hemoglobin-based O₂ carrier O₂ affinity and capillary inlet pO₂ are important factors that influence O₂ transport in a capillary.](#)

Dimino ML, Palmer AF.

Biotechnol Prog. 2007 Jul-Aug;23(4):921-31. Epub 2007 Jun 8.

PMID: 17555329 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

213. [Role of redox potential of hemoglobin-based oxygen carriers on methemoglobin reduction by plasma components.](#)

Dorman SC, Kenny CF, Miller L, Hirsch RE, Harrington JP.

Artif Cells Blood Substit Immobil Biotechnol. 2002 Jan;30(1):39-51.

PMID: 12000225 [PubMed - indexed for MEDLINE]

[Similar articles](#)

214. [Structural and functional characterization of glutaraldehyde-polymerized bovine hemoglobin and its isolated fractions.](#)

Buehler PW, Boykins RA, Jia Y, Norris S, Freedberg DI, Alayash AI.

Anal Chem. 2005 Jun 1;77(11):3466-78.

PMID: 15924377 [PubMed - indexed for MEDLINE]

[Similar articles](#)

215. [Bovine hemoglobin: a nontraditional approach to the management of acute anemia in a Jehovah's Witness patient with autoimmune hemolytic anemia.](#)

Jordan SD, Alexander E.

J Pharm Pract. 2013 Jun;26(3):257-60. doi: 10.1177/0897190012451928. Epub 2012 Aug 6.

PMID: 22869910 [PubMed - indexed for MEDLINE]

[Similar articles](#)

216. [A novel approach to measuring circulating blood volume: the use of a hemoglobin-based oxygen carrier in a rabbit model.](#)

Jahr JS, Lurie F, Xi S, Golkaryeh M, Kuznetsova O, Kullar R, Driessen B.
Anesth Analg. 2001 Mar;92(3):609-14.

PMID: 11226086 [PubMed - indexed for MEDLINE]

[Similar articles](#)

217. [Confirmation and quantification of hemoglobin-based oxygen carriers in equine and human plasma by hyphenated liquid chromatography tandem mass spectrometry.](#)

Guan F, Uboh CE, Soma LR, Luo Y, Jahr JS, Driessen B.

Anal Chem. 2004 Sep 1;76(17):5127-35.

PMID: 15373452 [PubMed - indexed for MEDLINE]

[Similar articles](#)

218. [Frontopolar activation during face-to-face conversation: an in situ study using near-infrared spectroscopy.](#)

Suda M, Takei Y, Aoyama Y, Narita K, Sato T, Fukuda M, Mikuni M.

Neuropsychologia. 2010 Jan;48(2):441-7. doi:

10.1016/j.neuropsychologia.2009.09.036. Epub 2009 Oct 9.

PMID: 19819248 [PubMed - indexed for MEDLINE]

[Similar articles](#)

219. [Systemic function, oxygenation and microvascular correlation during treatment of hemorrhagic shock with blood substitutes.](#)

Cheung AT, Duong PL, Driessen B, Chen PC, Jahr JS, Gunther RA.

Clin Hemorheol Microcirc. 2006;34(1-2):325-34.

PMID: 16543653 [PubMed - indexed for MEDLINE]

[Similar articles](#)

220. [Acellular haemoglobin attenuates hypoxia-inducible factor-1alpha \(HIF-1alpha\) and its target genes in haemodiluted rats.](#)

Manalo DJ, Buehler PW, Baek JH, Butt O, D'agnillo F, Alayash AI.

Biochem J. 2008 Sep 15;414(3):461-9. doi: 10.1042/BJ20080313.

PMID: 18498252 [PubMed - indexed for MEDLINE]

[Similar articles](#)

221. [Even in trauma, time is brain.](#)

Fraser JF, Härtl R.

Crit Care Med. 2008 Oct;36(10):2951-2. doi: 10.1097/CCM.0b013e31818724f2.

No abstract available.

PMID: 18812808 [PubMed - indexed for MEDLINE]

[Similar articles](#)

222. [HbG200-mediated preinduction of heme oxygenase-1 improves bile flow and ameliorates pericentral downregulation of Bsep and Mrp2 following experimental liver ischemia and reperfusion.](#)

Donner MG, Topp SA, Cebula P, Krienen A, Gehrmann T, Sommerfeld A, Reinehr R, Macher A, Herebian D, Mayatepek E, Pannen BH, Knoefel WT, Häussinger D. Biol Chem. 2013 Jan;394(1):97-112. doi: 10.1515/hsz-2012-0153.

PMID: 23096566 [PubMed - indexed for MEDLINE]

[Similar articles](#)

223. [Improvement of impaired microcirculation and tissue oxygenation by hemodilution with hydroxyethyl starch plus cell-free hemoglobin in acute porcine pancreatitis.](#)

Freitag M, Standl TG, Kleinhans H, Gottschalk A, Mann O, Rempf C, Bachmann K, Gocht A, Petri S, Izbicki JR, Strate T.

Pancreatology. 2006;6(3):232-9. Epub 2006 Mar 9.

PMID: 16534248 [PubMed - indexed for MEDLINE]

[Similar articles](#)

224. [Effect of hemoglobin-based oxygen carrier-201 on common chemistry laboratory procedures.](#)

Sarkozi L, Jacobs E, Clark T, Gawryl MS, Simson E.

Clin Chem. 1997 Sep;43(9):1792-4. No abstract available.

PMID: 9299983 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

225. [Arterial oxygenation and oxygen delivery after hemoglobin-based oxygen carrier infusion in canine hypovolemic shock: a dose-response study.](#)

Driessen B, Jahr JS, Lurie F, Golkaryeh MS, Gunther RA.

Crit Care Med. 2003 Jun;31(6):1771-9.

PMID: 12794419 [PubMed - indexed for MEDLINE]

[Similar articles](#)

226. [Inadequacy of low-volume resuscitation with hemoglobin-based oxygen carrier hemoglobin glutamer-200 \(bovine\) in canine hypovolemia.](#)

Driessen B, Jahr JS, Lurie F, Gunther RA.

J Vet Pharmacol Ther. 2001 Feb;24(1):61-71.

PMID: 11348488 [PubMed - indexed for MEDLINE]

[Similar articles](#)

227. [A simple and rapid pre-confirmation method to distinguish endogenous human haemoglobin from synthetic haemoglobin-based oxygen carriers in doping control.](#)

Donati F, Mazzarino M, de la Torre X, Botrè F, Islam N, Cowan D.

Electrophoresis. 2011 Oct;32(20):2915-8. doi: 10.1002/elps.201100178. Epub 2011 Sep 16.

PMID: 21922501 [PubMed - indexed for MEDLINE]

[Similar articles](#)

228. [Evaluation of coagulation stages of hemorrhaged swine: comparison of thromboelastography and rotational elastometry.](#)

Tomori T, Hupalo D, Teranishi K, Michaud S, Hammett M, Freilich D, McCarron R, Arnaud F.

Blood Coagul Fibrinolysis. 2010 Jan;21(1):20-7. doi: 10.1097/MBC.0b013e32833113e9.

PMID: 20010092 [PubMed - indexed for MEDLINE]

[Similar articles](#)

229. [Anemia in patients undergoing percutaneous coronary intervention: current issues and future directions.](#)

Wang TY, Rao SV.

Am J Cardiovasc Drugs. 2007;7(4):225-33. Review.

PMID: 17696564 [PubMed - indexed for MEDLINE]

[Similar articles](#)

230. [Cardioprotection before revascularization in ischemic myocardial injury and the potential role of hemoglobin-based oxygen carriers.](#)

Burkhoff D, Lefer DJ.

Am Heart J. 2005 Apr;149(4):573-9. Review.

PMID: 15990736 [PubMed - indexed for MEDLINE]

[Similar articles](#)

231. [Haemoglobin-based oxygen carriers: is the benefit worth the risk?](#)

Mackenzie CF.

Br J Hosp Med (Lond). 2009 Jan;70(1):26-30.

PMID: 19357574 [PubMed - indexed for MEDLINE]

[Similar articles](#)

232. [Hemoglobin-based oxygen carriers as rescue therapy: justified experiment or unnecessary risk?](#)

Sarani B, Pryor J.

J Clin Anesth. 2008 Nov;20(7):489-91. doi: 10.1016/j.jclinane.2008.07.001. Epub 2008 Nov 18. No abstract available.

PMID: 19019651 [PubMed - indexed for MEDLINE]

[Similar articles](#)

233. [Hope for reducing SA's trauma deaths?](#)

Bateman C.

S Afr Med J. 2004 Sep;94(9):728-9. No abstract available.

PMID: 15487829 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

234. [Validity of arterial and mixed venous oxygen saturation measurements in a canine hemorrhage model after resuscitation with varying concentrations of hemoglobin-based oxygen carrier.](#)

Lurie F, Driessen B, Jahr JS, Reynoso R, Gunther RA.

Anesth Analg. 2003 Jan;96(1):46-50, table of contents.

PMID: 12505921 [PubMed - indexed for MEDLINE]

[Similar articles](#)

235. [Validation of in vivo MR measurement of oxygen saturation after resuscitation with a hemoglobin-based oxygen carrier in a rabbit model.](#)

Chan FP, Jahr JS, Driessen B, Daunt DA, Li KC.

Acad Radiol. 2001 Jul;8(7):583-90.

PMID: 11450958 [PubMed - indexed for MEDLINE]

[Similar articles](#)

236. [Reconstructing hemoglobin-based oxygen carriers.](#)

Greenburg AG, Light WR, Dubé GP.

Transfusion. 2010 Dec;50(12):2764-7; author reply 2767. doi: 10.1111/j.1537-2995.2010.02814.x. No abstract available.

PMID: 21126254 [PubMed - indexed for MEDLINE]

[Similar articles](#)

237. [Effects of haemoglobin-based oxygen carrier hemoglobin glutamer-200 \(bovine\) on intestinal perfusion and oxygenation in a canine hypovolaemia model.](#)

Driessen B, Jahr JS, Lurie F, Griffey SM, Gunther RA.

Br J Anaesth. 2001 May;86(5):683-92. Erratum in: Br J Anaesth 2001 Jul;87(1):164. Br J Anaesth 2001 Aug;87(2):329.

PMID: 11575346 [PubMed - indexed for MEDLINE] **Free Article**

[Similar articles](#)

238. [Analysis of hemoglobin-based oxygen carriers by CE-UV/Vis and CE-ESI-TOF/MS.](#)
Staub A, Rudaz S, Saugy M, Veuthey JL, Schappler J.
Electrophoresis. 2010 Apr;31(7):1241-7. doi: 10.1002/elps.200900513.
PMID: 20196028 [PubMed - indexed for MEDLINE]
[Similar articles](#)
239. [Proposition of a technique to assess the vasoactive effects of hemoglobin-based oxygen carrying solutions in vivo: preliminary results in the rabbit aorta.](#)
Caron A, Menu P, Labrude P, Vigneron C.
Artif Cells Blood Substit Immobil Biotechnol. 1998 May;26(3):293-308.
PMID: 9635122 [PubMed - indexed for MEDLINE]
[Similar articles](#)
240. [Systemic intravenous infusion of bovine hemoglobin significantly reduces microcirculatory dysfunction in experimentally induced pancreatitis in the rat.](#)
Strate T, Mann O, Kleinhans H, Schneider C, Knoefel WT, Yekebas E, Standl T, Bloechle C, Izbicki JR.
Ann Surg. 2003 Nov;238(5):765-71.
PMID: 14578741 [PubMed - indexed for MEDLINE] **Free PMC Article**
[Similar articles](#)
241. [Radiographic, biomechanical, and pathologic effects of hemoglobin glutamer-200 in dogs undergoing cemented total hip arthroplasty.](#)
Braden TD, Tvedten HW, DeCamp CE, Turner TM, Hughes GS, Rentko VT.
Am J Vet Res. 1999 Nov;60(11):1337-40.
PMID: 10566804 [PubMed - indexed for MEDLINE]
[Similar articles](#)
242. [Artificial Oxygen Carriers as Red Blood Cell Substitutes - Perfluorocarbons and Cell-Free Hemoglobin.](#)
Standl T.
Infusionsther Transfusionsmed. 2000 May;27(3):128-137.
PMID: 10878481 [PubMed - as supplied by publisher]
[Similar articles](#)
243. [Oxygen saturation measurements in canine blood containing hemoglobin glutamer-200 \(Bovine\): in vitro validation of the NOVA CO-Oximeter.](#)
Jahr JS, Driessen B, Lurie F, Tang Z, Louie RF, Kost G.
Vet Clin Pathol. 2001;30(1):39-45.

PMID: 12024330 [PubMed - as supplied by publisher]

[Similar articles](#)

244. [Oxygen therapeutics--current concepts.](#)

Hill SE.

Can J Anaesth. 2001 Apr;48(4 Suppl):S32-40.

PMID: 11336435 [PubMed - indexed for MEDLINE]

[Similar articles](#)

245. [Endothelin-1 contributes to hemoglobin glutamer-200-mediated hepatocellular dysfunction after hemorrhagic shock.](#)

Kubulus D, Mathes A, Reus E, Pradarutti S, Pavlidis D, Thierbach JT, Heiser J, Wolf B, Bauer I, Rensing H.

Shock. 2009 Aug;32(2):179-89. doi: 10.1097/SHK.0b013e318199352b.

PMID: 19106820 [PubMed - indexed for MEDLINE]

[Similar articles](#)

246. [Oxygen carriers \("blood substitutes"\).](#)

Topfer LA, Hailey D.

Issues Emerg Health Technol. 2001 Jul;(21):1-6.

PMID: 11776287 [PubMed - indexed for MEDLINE]

[Similar articles](#)

247. [Hemoglobin-glutamer 200 reduces reperfusion injury of the cold preserved rat liver by induction of heme oxygenase-1.](#)

Topp SA, Krieg A, Koch A, Tidden CM, Ramp U, Hohlfeld T, Macher A, Schulte am Esch J 2nd, Eisenberger CF, Stoecklein NH, Knoefel WT.

J Surg Res. 2008 Dec;150(2):243-54. doi: 10.1016/j.jss.2008.02.033. Epub 2008 Mar 18.

PMID: 18395753 [PubMed - indexed for MEDLINE]

[Similar articles](#)

248. [Direct sGC activation bypasses NO scavenging reactions of intravascular free oxy-hemoglobin and limits vasoconstriction.](#)

Raat NJ, Tabima DM, Specht PA, Tejero J, Champion HC, Kim-Shapiro DB, Baust J, Mik EG, Hildesheim M, Stasch JP, Becker EM, Truebel H, Gladwin MT.

Antioxid Redox Signal. 2013 Dec 20;19(18):2232-43. doi: 10.1089/ars.2013.5181. Epub 2013 Jul 9.

PMID: 23697678 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

249. [Simulation of NO and O2 transport facilitated by polymerized hemoglobin solutions in an arteriole that takes into account wall shear stress-induced NO production.](#)
Zhou Y, Cabrales P, Palmer AF.
Biophys Chem. 2012 Mar;162:45-60. doi: 10.1016/j.bpc.2011.12.006. Epub 2012 Jan 9.
PMID: 22285312 [PubMed - indexed for MEDLINE] **Free PMC Article**
[Similar articles](#)
250. [Dilate, dilute, constrict, or else in treating hemorrhage?](#)
Friedman JM.
Crit Care Med. 2011 Jun;39(6):1591-2. doi: 10.1097/CCM.0b013e3182185480.
No abstract available.
PMID: 21610642 [PubMed - indexed for MEDLINE]
[Similar articles](#)
251. [Hemoglobin-based oxygen carriers: compassionate use and compassionate clinical trials.](#)
Weiskopf RB.
Anesth Analg. 2010 Mar 1;110(3):659-62. doi: 10.1213/ANE.0b013e3181c85255.
No abstract available.
PMID: 20185643 [PubMed - indexed for MEDLINE]
[Similar articles](#)
252. [Oxygen therapeutics \(blood substitutes\) in cardiac surgery.](#)
Mosa MM, Cheng DC.
Curr Opin Anaesthesiol. 2003 Feb;16(1):21-6.
PMID: 17021438 [PubMed]
[Similar articles](#)
253. [Hemoglobin solutions.](#)
Waschke KF, Frietsch T, Quintel M, Lenz C, Rebel A.
Acta Anaesthesiol Scand Suppl. 1997;111:259-63. No abstract available.
PMID: 9421037 [PubMed - indexed for MEDLINE]
[Similar articles](#)
254. [Appearance of dissociable and cross-linked hemoglobins in the renal hilar lymph.](#)
Matheson B, Razynska A, Kwansa H, Bucci E.
J Lab Clin Med. 2000 Jun;135(6):459-64.
PMID: 10850645 [PubMed - indexed for MEDLINE]

[Similar articles](#)

255. [Inadequacy of low-volume resuscitation with hemoglobin-based oxygen carrier hemoglobin glutamer-200 \(bovine\) in canine hypovolemia.](#)

Muir W, Schertel ER.

J Vet Pharmacol Ther. 2001 Dec;24(6):447-8. No abstract available.

PMID: 11903877 [PubMed - indexed for MEDLINE]

[Similar articles](#)

256. [Blood alternative products: correction regarding Jehovah's Witnesses.](#)

Muller CF.

S Afr Med J. 2009 Feb;99(2):72, 74; author reply 74. No abstract available.

PMID: 19422107 [PubMed - indexed for MEDLINE]

[Similar articles](#)

257. [Effects of isovolemic resuscitation with hemoglobin-based oxygen carrier Hemoglobin glutamer-200 \(bovine\) on systemic and mesenteric perfusion and oxygenation in a canine model of hemorrhagic shock: a comparison with 6% hetastarch solution and shed blood.](#)

Driessen B, Jahr JS, Lurie F, Gunther RA.

Vet Anaesth Analg. 2006 Nov;33(6):368-80.

PMID: 17083609 [PubMed - indexed for MEDLINE]

[Similar articles](#)

258. [Methodologies for detection of hemoglobin-based oxygen carriers.](#)

Goebel C, Alma C, Howe C, Kazlauskas R, Trout G.

J Chromatogr Sci. 2005 Jan;43(1):39-46.

PMID: 15808005 [PubMed - indexed for MEDLINE]

[Similar articles](#)

259. [LC-ESI-MS/MS draws the line on doping.](#)

Smith WD.

Anal Chem. 2003 Aug 1;75(15):337A. No abstract available.

PMID: 14572024 [PubMed - indexed for MEDLINE]

[Similar articles](#)

260. [Successful treatment of a southern Pacific rattlesnake \(Crotalus viridis helleri\) bite in a caracal \(Caracal caracal\).](#)

Singleton CL, Oosterhuis JE, Seibold K, Lamberski N.

J Zoo Wildl Med. 2009 Jun;40(2):378-81.

PMID: 19569491 [PubMed - indexed for MEDLINE]

[Similar articles](#)

261. [Severe anemia after gastrointestinal hemorrhage in a Jehovah's Witness: new treatment strategies.](#)

Gannon CJ, Napolitano LM.

Crit Care Med. 2002 Aug;30(8):1893-5.

PMID: 12163811 [PubMed - indexed for MEDLINE]

[Similar articles](#)

262. [Notes from the 2002 American Society of Anesthesiologists annual meeting.](#)

O'Brien D.

J Perianesth Nurs. 2003 Apr;18(2):126-34. No abstract available.

PMID: 12710008 [PubMed - indexed for MEDLINE]

[Similar articles](#)

263. [Blood product from cattle wins approval for use in humans.](#)

Lok C.

Nature. 2001 Apr 19;410(6831):855. No abstract available.

PMID: 11309575 [PubMed - indexed for MEDLINE]

[Similar articles](#)

264. [Evaluation of the effects of bovine hemoglobin glutamer-200 on systolic arterial blood pressure in hypotensive cats: 44 cases \(1997-2008\).](#)

Wehausen CE, Kirby R, Rudloff E.

J Am Vet Med Assoc. 2011 Apr 1;238(7):909-14. doi: 10.2460/javma.238.7.909.

PMID: 21453180 [PubMed - indexed for MEDLINE]

[Similar articles](#)

265. [Low-volume resuscitation with a haemoglobin-based oxygen carrier Hemoglobin glutamer-200 \(bovine\) in canine hypovolaemia.](#)

Driessen B, Jahr JS, Lurie F, Gunther RA.

Vet Anaesth Analg. 2001 Oct;28(4):204. doi: 10.1111/j.1467-2987.2001.00064.x.

Epub 2016 Nov 15. No abstract available.

PMID: 28404245 [PubMed]

[Similar articles](#)

266. [Transfusion of soluble hemoglobin.](#)

Roth RI, Levin J.

N Engl J Med. 2000 Oct 26;343(17):1273. No abstract available.

PMID: 11183359 [PubMed - indexed for MEDLINE]

[Similar articles](#)

267. [Hemoglobin-based blood substitutes and risk of myocardial infarction and death.](#)
Levien LJ, Hodgson RE, James MF.
JAMA. 2008 Sep 17;300(11):1295; author reply 1298-9. doi:
10.1001/jama.300.11.1295-a. No abstract available.
PMID: 18799436 [PubMed - indexed for MEDLINE]
[Similar articles](#)
268. [The prospect of hemoglobin-based blood substitutes: Still a long stony road to go.](#)
Bone HG, Westphal M.
Crit Care Med. 2005 Mar;33(3):694-5. No abstract available.
PMID: 15753779 [PubMed - indexed for MEDLINE]
[Similar articles](#)
269. [Do approved blood substitutes reduce myocardial infarction size: is this the critical question?](#)
Jahr J.
Br J Anaesth. 2009 Oct;103(4):470-1. doi: 10.1093/bja/aep227. No abstract available.
PMID: 19749116 [PubMed - indexed for MEDLINE] **Free Article**
[Similar articles](#)
270. [\[Spectral properties of myoglobins from aquatic mammals\].](#)
Sukhomlynov BF, Korobov VM, Fedorovych AM, Vasil'ieva VO.
Ukr Biokhim Zh (1978). 1991 Mar-Apr;63(2):22-6. Ukrainian.
PMID: 1882458 [PubMed - indexed for MEDLINE]
[Similar articles](#)
271. [Can the effects of vasoactivity of molecular hemoglobin-based plasma expanders be ignored?](#)
Tsai AG, Cabrales P.
Crit Care Med. 2006 May;34(5):1566-7. No abstract available.
PMID: 16633264 [PubMed - indexed for MEDLINE]
[Similar articles](#)
272. [Transfusions of polymerized bovine hemoglobin in a patient with severe autoimmune hemolytic anemia.](#)
Mullon J, Giacompe G, Clagett C, McCune D, Dillard T.
N Engl J Med. 2000 Jun 1;342(22):1638-43. No abstract available.
PMID: 10836875 [PubMed - indexed for MEDLINE] **Free Article**
[Similar articles](#)

273. [Microcirculatory function and tissue damage is improved after therapeutic injection of bovine hemoglobin in severe acute rodent pancreatitis.](#)
Strate T, Mann O, Kleinhans H, Rusani S, Schneider C, Yekebas E, Freitag M, Standl T, Bloechle C, Izbicki JR.
Pancreas. 2005 Apr;30(3):254-9.
PMID: 15782104 [PubMed - indexed for MEDLINE]
[Similar articles](#)
274. [The effects of hemoglobin glutamer-200 \(bovine\) on the microcirculation in a canine hypovolemia model: a noninvasive computer-assisted intravital microscopy study.](#)
Cheung AT, Jahr JS, Driessen B, Duong PL, Chan MS, Lurie F, Golkaryeh MS, Kullar RK, Gunther RA.
Anesth Analg. 2001 Oct;93(4):832-8.
PMID: 11574342 [PubMed - indexed for MEDLINE]
[Similar articles](#)
275. [The successful use of hemoglobin-based oxygen carrier as a primary blood substitute during abdominal aneurysm repair with large blood loss.](#)
Sprung J, Popp H, O'Hara P, Woletz J.
Anesth Analg. 2001 Jun;92(6):1413-5. No abstract available.
PMID: 11375814 [PubMed - indexed for MEDLINE]
[Similar articles](#)
276. [Comparison of fluid types for resuscitation after acute blood loss in mallard ducks \(Anas platyrhynchos\).](#)
Lichtenberger M, Orcutt C, Cray C, Thamm DH, DeBehnke D, Page C, Mull L, Kirby R.
J Vet Emerg Crit Care (San Antonio). 2009 Oct;19(5):467-72. doi: 10.1111/j.1476-4431.2009.00465.x.
PMID: 19821888 [PubMed - indexed for MEDLINE]
[Similar articles](#)
277. [Metanalysis critical of blood alternative product challenged.](#)
Bateman C.
S Afr Med J. 2008 Oct;98(10):746, 748. No abstract available.
PMID: 19115744 [PubMed - indexed for MEDLINE]
[Similar articles](#)
278. [Fear flows as efforts to ease blood shortage continue in vein.](#)
Basu P.

Nat Med. 2003 Nov;9(11):1336. No abstract available.

PMID: 14595412 [PubMed - indexed for MEDLINE]

[Similar articles](#)

279. [Hexacoordinate oxy-globin models Fe\(Por\)\(NH₃\)\(O₂\) react with NO to form only the nitrate analogs Fe\(Por\)\(NH₃\)\(\$\eta^1\$ -ONO₂\), even at ~100 K.](#)

Kurtikyan TS, Ford PC.

Chem Commun (Camb). 2010 Dec 7;46(45):8570-2. doi: 10.1039/c0cc02665d.
Epub 2010 Oct 21.

PMID: 20963248 [PubMed - indexed for MEDLINE]

[Similar articles](#)

280. [Broadband diffuse optical spectroscopy assessment of hemorrhage- and hemoglobin-based blood substitute resuscitation.](#)

Lee J, Kim JG, Mahon S, Tromberg BJ, Mukai D, Kreuter K, Saltzman D, Patino R, Goldberg R, Brenner M.

J Biomed Opt. 2009 Jul-Aug;14(4):044027. doi: 10.1117/1.3200932.

PMID: 19725738 [PubMed - indexed for MEDLINE] **Free PMC Article**

[Similar articles](#)

281. [\[Failure to prove the effectiveness of hemoglobin solutions as oxygen carrier in the paper of Horn et al. Anaesthesist \(1998\) 47:116-123\].](#)

Zander R.

Anaesthesist. 1998 Dec;47(12):998-1003. German. No abstract available.

PMID: 9893895 [PubMed - indexed for MEDLINE]

[Similar articles](#)

282. [Ethical considerations concerning South Africa's approval of a blood substitute.](#)

Schutte AE.

Ethics Med. 2002 Summer;18(2):55-62. No abstract available.

PMID: 14700041 [PubMed - indexed for MEDLINE]

[Similar articles](#)

283. [Changes in circulating blood and plasma volume after hemoglobin-based oxygen carrier infusion and additional infusion of colloid solutions.](#)

Lurie F, Jahr JS, Driessen B.

Am J Ther. 2002 Sep-Oct;9(5):425-30.

PMID: 12237735 [PubMed - indexed for MEDLINE]

[Similar articles](#)

284. [Differing opinions on treatment of immune-mediated hemolytic anemia.](#)

Day TK, Macintire DK, Murtaugh RJ, Mathews KA.
J Am Vet Med Assoc. 2001 May 1;218(9):1414-5. No abstract available.
PMID: 11345298 [PubMed - indexed for MEDLINE]

[Similar articles](#)

285. [Letter to the Editor: Emergency research consent waiver--a proper way.](#)

Shamoo AE.

Am J Bioeth. 2006 Jul-Aug;6(4):W48-51. No abstract available.

PMID: 16885090 [PubMed - indexed for MEDLINE]

[Similar articles](#)

286. [Effects of the haemoglobin-based oxygen carrier Hemoglobin glutamer-200 \(bovine\) on intestinal perfusion and oxygenation in a canine hypovolaemia model.](#)

Driessen B, Jahr JS, Lurie F, Griffey SM, Gunther RA.

Vet Anaesth Analg. 2001 Oct;28(4):204-205. doi: 10.1111/j.1467-2987.2001.064-2.x. Epub 2016 Nov 15. No abstract available.

PMID: 28404246 [PubMed]

[Similar articles](#)