

**2 seconds.**

**5 MILLION**

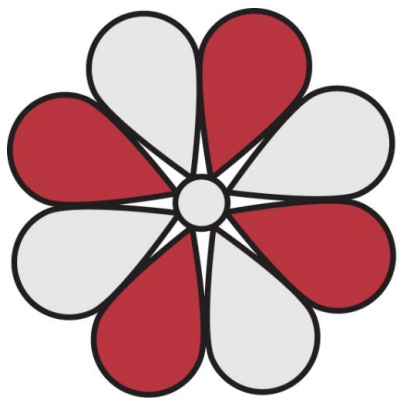


Only 5% donate

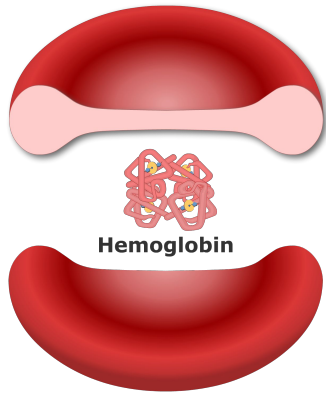
\$200 per unit

6-week shelf life





**Oxalis**



=



+



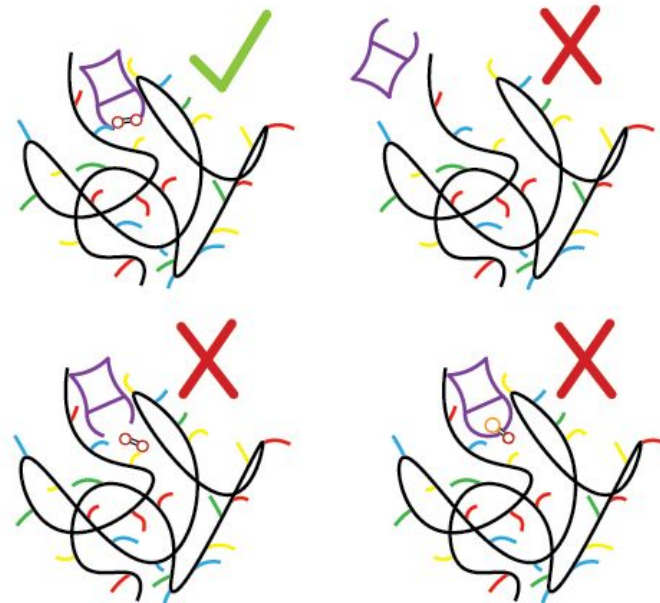
**DNA**

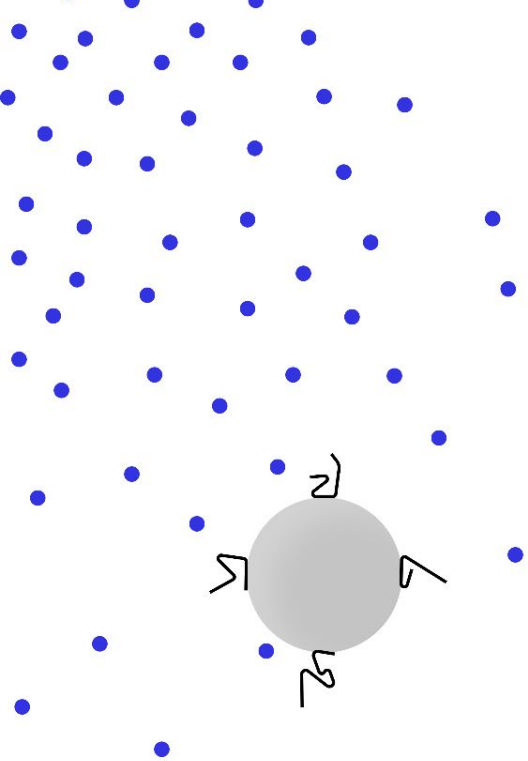


**Aptamer**

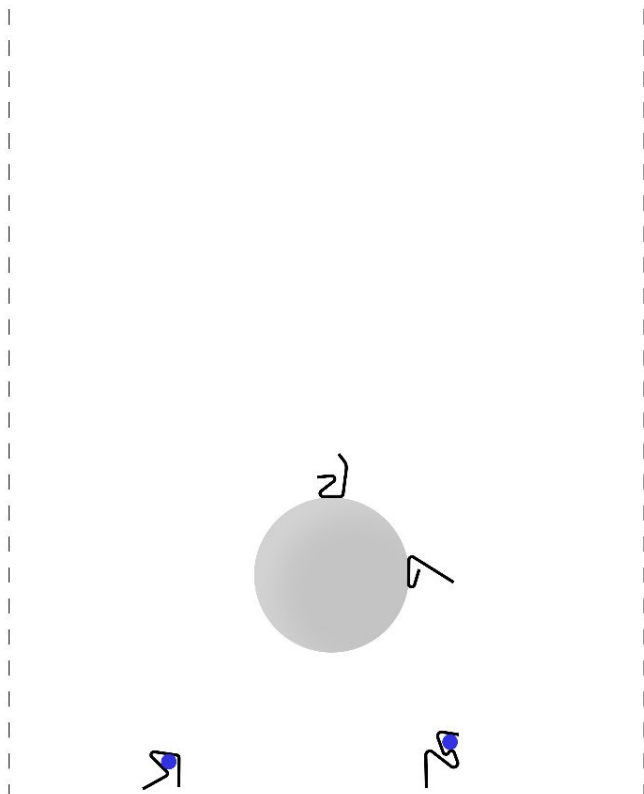


**Bonded to heme + O<sub>2</sub>**

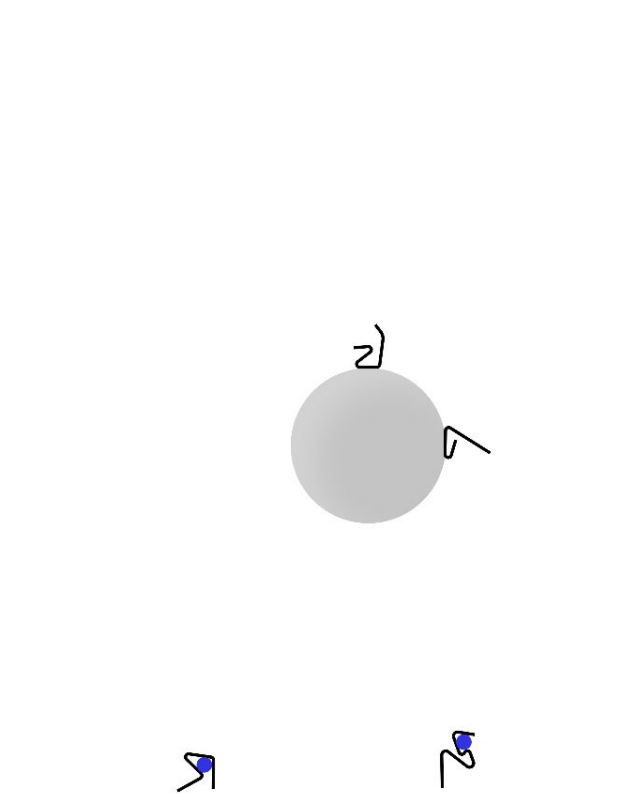




Oxygen is added to the environment



Aptamers that bind to oxygen pop off



Magnetic beads carry away aptamers







Scalable for  
**ANY** blood type

**20x cheaper**  
(~\$10/unit)

**6+ months**  
shelf-life



freeflex® 500 ml

**Voluen®**  
6% solution for infusion

100  
200  
300  
400

**Hydroxyethyl starch (HES 130/0.4) in isotonic sodium chloride solution**  
1 litre contains:

Poly(O-2-hydroxyethyl)starch	60.00 g
- Molar substitution 0.38 - 0.45	
- Mean molecular weight ( $M_n$ ) = 130,000	
Sodium chloride	9.00 g
Electrolytes: Na <sup>+</sup> 154 mmol/l, Cl <sup>-</sup> 154 mmol/l	
Other ingredients: Sodium hydroxide, hydrochloric acid (25%), water for injections.	
Theoretical osmolarity:	306 mosm/l
Titrate acidity:	< 1.0 mmol NaOH/l
pH:	4.0 - 5.5

030001/00 V3

**For continuous intravenous infusion**

Maximum daily dose: 50 ml/kg b.w.  
To be used immediately after the bag is opened.  
Do not use Voluen® after expiry date.  
Any unused solution should be discarded.  
Use only clear solutions and undamaged containers.  
Keep out of reach of children.  
Do not store above 25°C.  
Do not freeze.

Registration no.:



FRESENIUS  
KABI

Fresenius Kabi Deutschland GmbH  
D-61348 Bad Homburg v.d.H.  
Germany

Batch no.:

Manufact. date:

Expiry date:

“Your idea seems to be a good one, and likely has real potential. [...] From what I can see [...] [aptamers] have not been used as an alternative to a heme-based protein [...] for use as an oxygen therapeutic agent.”



**Peter Keipert**

PhD w/ over 25 years of sector experience

“It sounds really exciting, [...] seems super cool [...] and all the steps seem decently executable.”



**Colin Cook**

Head of R&D for an NIH STTR project working on gene and viral therapies

