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Walder

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[54] **ALPHA-ALPHA CROSS-LINKED HEMOGLOBINS**

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[52] **U.S. Cl.** **514/6**; 530/385; 530/405; 530/406; 424/101

[58] **Field of Search** ..... 260/112.5 R, 112 B, 260/115; 424/101; 514/6

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[57] **ABSTRACT**

Blood substitute and blood plasma expanders comprising alpha-alpha cross-linked stroma-free hemoglobin, which is substantially free of hemoglobin derivatives modified at other sites. The hemoglobin composition is intramolecularly cross-linked between Lys 99 $Alpha_1$ and Lys 99 $Alpha_2$.

11 Claims, 3 Drawing Figures