



Listing of Publications – As of April 2026

### **1. Red Blood Cell Stability and Functionality Under Storage Conditions**

Hicks, W., Jana, S., Kassa, T. *et al.* Biopreservation and reversal of oxidative injury during blood storage by a novel curcumin-based gel formulation. *Sci Rep* 14, 31441 (2024).

<https://doi.org/10.1038/s41598-024-82943-1>

### **2. Chronic Sequelae in Sickle Cell including RBC stability, pain, inflammation and oxidative stress**

Goel, Y., Arellano, M.A., Fouda, R.T., Garcia, N.R., Lomeli, R.A., Kerr, D., Argueta, D.A., Gupta, M., Velasco, G.J., Prince, R. and Banerjee, P., 2025. Targeting sickle cell pathobiology and pain with novel transdermal curcumin. *PNAS nexus*, 4(2), p.pgaf053.

<https://doi.org/10.1093/pnasnexus/pgaf053>

### **3. Cardiac Bioenergetics in a Sickle Cell Murine Model**

Jana. A novel transdermal curcumin gel shows potential in improving cardiac bioenergetic functions in Berkeley sickle cell mice. *Blood Vessels, Thrombosis & Hemostasis*, 3(1), p.100131. <https://doi.org/10.1016/j.bvth.2025.100131>, S., Hicks, W., Garbus-Grant, H., Goel, Y., Prince, R., Friedman, J., Gupta, K. and Alayash, A.I., 2026

### **4. Targeting Hypoxia/Reoxygenation Induced Acute Neuropathic Pain Through the Inhibition of the IL17-TNF- $\alpha$ /IL-6–p38 MAPK Activation Pathway**

Goel, Y., Argueta, D., Mireles, C., Lomeli, R., Prince, R., Friedman, J. and Gupta, K., 2025. Mechanisms of acute pain involve spinal IL17-TNF- $\alpha$ /IL-6–p38 MAPK activation in sickle cell disease. *Blood*, 146, p.4704. <https://doi.org/10.1182/blood-2025-4704>

### **5. Aging, Inflammaging, Endothelial Dysfunction and Pharmacokinetics**

Salutary effects of transdermal curcumin on multiple indices of health span in rodent models of normal aging and lifespan) Mao, K., Wang, R., Karpoff, K., Kerr, D., Banerjee, P., Friedman, J.M. and Huffman, D.M., 2025. Salutary effects of transdermal curcumin on multiple indices of health span in rodent models of normal aging and hypertension. *GeroScience*, 47(4), pp.5577-5590. <https://doi.org/10.1007/s11357-025-01607-8>



## **6. Cytokine Storm and Vascular Dysregulation**

Nugent, W.H., Carr, D.A., Friedman, J. and Song, B.K., 2023. Novel transdermal curcumin therapeutic preserves endothelial barrier function in a high-dose LPS rat model. *Artificial Cells, Nanomedicine, and Biotechnology*, 51(1), pp.33-40.

<https://doi.org/10.1080/21691401.2022.2164584>

## **7. Cisplatin and Tumor Induced Neuropathology**

Yugal Goel; Carolina Mireles; Dahlia Ordaz; Kendall O'Daniel; Kristen A. Peterson; Naomi Lomeli; Reina Lomeli; Daniela A. Bota; Joel Friedman; Kalpna Gupta *Novel transdermal curcumin attenuates cisplatin induced neuropathy in a mouse model of breast cancer Cancer Res (2026) 86 (7\_Supplement): 5216.*

<https://doi.org/10.1158/1538-7445.AM2026-5216>

## **8. Phase 1b Clinical Trial for Knee Osteoarthritis**

Lopresti, A., Antony, B. and Smith, S.J., The effect of a topical curcumin formulation (VAS-101) on knee pain in adults with knee osteoarthritis: A randomised, double-blind, placebo-controlled study. *Frontiers in Pain Research*, 7, p.1789088.

<https://doi.org/10.3389/fpain.2026.1789088>