



Listing of Publications – As of July 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- α /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- α /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>

9. Neuroimmune Signaling in Sickle Cell Disease

Yugal Goel, Donovan A Argueta, Kendall O'Daniel, Carolina Mireles, Reina A Lomeli, Richard Prince, Joel Friedman, Kalpna Gupta, Neuroimmune signaling through spinal IL-17–TNF- α /p38 MAPK drives acute pain in sickle cell disease, *Journal of Sickle Cell Disease*, Volume 3, Issue Supplement_1, June 2026, yoag020.003, <https://doi.org/10.1093/jscdis/yoag020.003>

10. Low-Dose Curcumin Improves Sickling Kinetics in Sickle Cell Disease

Lanetta Bronte, Gershwin Blyden, Patrick Hines, Marta Ferranti, Richard Prince, Joel Friedman, Shavon L Jackson-Michel, Aliya Zaidi, Maria Cunningham, Low-Dose Sublingual Curcumin Improves Red Blood Cell Sickling Kinetics in Sickle Cell Disease: Interim Results from a Pilot Study, *Journal of Sickle Cell Disease*, Volume 3, Issue Supplement_1, June 2026, yoag020.071, <https://doi.org/10.1093/jscdis/yoag020.071>