

## Comment on the “Development of copper nanoparticles and their prospective use in the pharmaceutical sector.”

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Dear Editor,

I'd like to comment on a recent article published in Precision Nanomedicine titled “Development of copper nanoparticles and their prospective use in the pharmaceutical sector,” Vol. 6, Issue 2, 2023, by Tyagi et al., which reviews the synthesis and application of copper-based nanoparticles (<https://doi.org/10.33218/001c.83932>). I read the review with great interest.

While the article makes a good attempt, additional features can be emphasized. This review includes a short section on diagnostic imaging discussing the conjugation of copper nanoparticles with fluorescent dyes. It is worth mentioning that metal particles of any type can be conjugated with dyes for optical imaging, and it is imperative to draw attention to the intrinsic properties of copper and why it can be used in diagnostic imaging. An advantage of metallic nanoparticles is their unique ability to conduct plasma absorption, enhance Rayleigh scattering, enhance Raman scattering on surfaces, and determine chemical information on metallic nanoscale substrates.

For copper, their antioxidant properties are well explored. Interestingly, their absorbance and paramagnetic properties have been exploited to use the metal as an MRI contrast agent. Copper offers unique absorbance and paramagnetic properties, making them suitable for diagnostic imaging.<sup>1-4</sup> Copper showed excellent signal enhancement for molecularly targeted photoacoustic and T1-weighted magnetic resonance imaging (MRI).

### Conflict of interest

The author declares no conflict of interest. For a signed statement, please contact the journal office at [editor@precisionnanomedicine.com](mailto:editor@precisionnanomedicine.com).

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