

PEER-REVIEW REPORT

Name of journal: *World Journal of Radiology*

Manuscript NO: 88642

Title: Imaging assessment of photosensitizer emission induced by radionuclide-derived Cherenkov radiation using charge-coupled device optical imaging and long-pass filters

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 02519358

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Japan

Manuscript submission date: 2023-10-03

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-10-12 14:33

Reviewer performed review: 2023-10-14 15:07

Review time: 2 Days

Scientific quality	☐ Grade A: Excellent ☒ Grade B: Very good ☐ Grade C: Good ☐ Grade D: Fair ☐ Grade E: Do not publish
Novelty of this manuscript	☒ Grade A: Excellent ☐ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No novelty
Creativity or innovation of this manuscript	☒ Grade A: Excellent ☐ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	☒ Grade A: Excellent ☐ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No scientific significance
Language quality	☐ Grade A: Priority publishing ☒ Grade B: Minor language polishing ☐ Grade C: A great deal of language polishing ☐ Grade D: Rejection
Conclusion	☐ Accept (High priority) ☒ Accept (General priority) ☐ Minor revision ☐ Major revision ☐ Rejection
Re-review	☒ Yes ☐ No
Peer-reviewer statements	Peer-Review: ☒ Anonymous ☐ Onymous
	Conflicts-of-Interest: ☐ Yes ☒ No

SPECIFIC COMMENTS TO AUTHORS

This paper proposes the use of Copper-64 ($^{64}\text{CuCl}_2$) as a radionuclide to produce Cherenkov radiation (CR), which can potentially activate the photosensitizer Tetrakis(4-carboxyphenyl) porphyrin (TCPP). This paper uses a charge coupled device (CCD) optical imaging system coupled with appropriate long-pass filters of different wavelengths and subtraction image processing to distinguish CR and TCCP fluorescence emission. This method is effective, economical and of wide significance.