

Response to reviewers and editors (Manuscript NO: 88642)

Dear reviewer and editors,

We thank you for the time and effort you have devoted to providing insightful comments and making valuable improvements to our manuscript. We incorporated the suggestions raised in the peer review report and have compiled a point-by-point response. In the revised manuscript, the revised contents are highlighted in yellow.

Response to reviewer

Reviewer's comment to authors:

Reviewer: (Code: 02519358)

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

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.

Response: We are most grateful to the reviewer for carefully reading our manuscript and providing valuable suggestions and constructive comments. Thank you for the encouraging remarks.

But the present manuscript has some problems:

1. *The experimental methods in this paper are too simple, and the reliability of the detection method needs to be proved in many aspects.*

Response: We agree with the reviewer's comment. As mentioned in the discussion (Page 13, Line 2 ~ Line 10), our current study primarily focused on proving the methodological concept in a simple and cost-effective way, and it

has some limitations. However, this technique certainly seems promising under the conditions used in the study. Extended studies such as dose- and time-dependent experiments using various photosensitizers and radionuclides would strengthen the validation of this methodology. We are now preparing for that goal.

2. In addition, there are some writing format problems, spelling mistakes, grammatical issues in the article. Please read the full text and revise carefully.

After editing the above questions, this article will be recommended for publication.

Response: Following the reviewer's suggestion, the entire manuscript has been formatted appropriately and revised carefully to correct spelling mistakes and address any remaining grammatical issues, by a native language professional. (We enclose a language certificate letter issued by the professional English language editing company (Editage)).

Response to Editorial Office's comments and suggestions

Science editor's comment:

The manuscript has been peer-reviewed, and it is ready for the first decision.

Response: We would like to express our sincere appreciation to the Science editor for carefully reading our manuscript and for providing suggestion as to how to proceed.

Company editor-in-chief's comment:

I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Radiology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the

author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2023. Please upload the approved grant application form(s) or funding agency copy of any approval document(s).

Response: We are most grateful to the Company Editor-in-Chief for carefully reading our manuscript and for offering valuable suggestions.

Accordingly, we prepared and have provided decomposable Figures in PowerPoint format (PPT).

We also provided the grant approval document.

Moreover, we have thoroughly revised and prepared the manuscript according to the steps outlined by the Editorial Office.

1. Our revised manuscript was polished by a professional English language editing company. We have included a language certificate letter issued by the professional English language editing company (Editage).
2. We also provided all the other required documents and the audio file (.m4a) in which the core tip is described.