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Enabling the respiratory tract decontamination using inhalation and external illumination: a translational approach for photodynamic therapy

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Hide Abstract –

The applicability of PDI using the photosensitizer indocyanine green (ICG) and external activation with infrared light has been previously demonstrated for different bacterial agents. However, for it to become a clinical treatment, we present and discuss results regarding the four elements that need to be achieved in the translational research: the efficient pulmonary delivery of the photosensitizer; the efficient delivery of light; assured selectivity and safety for the proposed treatment; and the efficacy in killing the pathogens. Our findings corroborate to the design of a promising new clinical treatment.