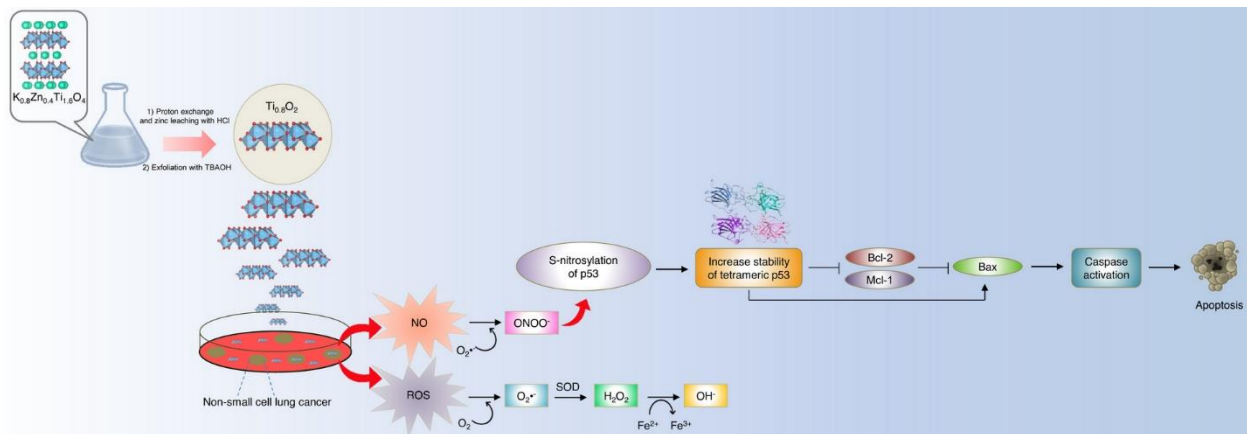




Department of Pharmacology, Faculty of Science
Mahidol University

Titania nanosheet generates peroxynitrite-dependent S-nitrosylation and enhances p53 function in lung cancer cells

In this present study, for the first time, provides information on the effect of $Ti_{0.8}O_2$ nanosheet-induced apoptosis through a molecular mechanism involving peroxynitrite ($ONOO^-$) generation. After treatment with $Ti_{0.8}O_2$ nanosheets, it may directly control p53 (tumor suppressor protein) by S-nitrosylation to stabilize the tetrameric structure of this protein. This reflects that the S-nitrosylation at cysteine 182 of p53 results in higher stability of the tetrameric protein-protein complex compared to the native p53. Therefore, the results of this study ingeminate the novel mechanism of action of nanomaterials for cancer therapy.



Reference:

Soonnarong R, Tungskruthai S, Nutho B, Rungrotmongkol T, Vinayanuwattikun C, Maluangnont T, Chanvorachote P. Titania nanosheet generates peroxynitrite-dependent S-nitrosylation and enhances p53 function in lung cancer cells. *Pharmaceutics*, 2021;13(8): 1233. <https://doi.org/10.3390/pharmaceutics13081233>



ความเชื่อมโยงกับเป้าหมาย SDGs:
เป้าหมายที่ 3: การมีสุขภาพและความเป็นอยู่ที่ดี