

Beyond the white

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BEYOND THE WHITE

Effects of the titanium dioxide food additive E171 on development of colorectal cancer

PROPOSITIONS

1. Effects after oral exposure to E171, including oxidative stress, DNA damage, modulation of immune system genes, signal transduction and cancer-related genes show that titanium dioxide should not be considered as an inert particle (This thesis).
2. The use of E171 to study the effects of the food additive titanium dioxide is more relevant than titanium dioxide nanoparticles or microparticles (Chapter 5 and 6).
3. Adverse effects related to ingestion of E171 need to be understood in order to perform a risk assessment (This thesis).
4. Alternatives to E171 will be necessary in the future.
5. Advances in *in silico* methods are transforming toxicological assessment of compounds and will generate a better understanding of the potential risks to humans and offer the prospect of improved risk-based regulatory decisions.
6. Data analysis is like finding your way in a labyrinth; you first need to constantly face decisions and frustrations before you reach the centre and experience the relief of solving the puzzle.
7. The goal of food should be to bring health to the greatest number of people.
8. The society, especially consumers, has the power to push for more research and re-evaluation of products.
9. "I am among those who think that science has a great beauty. A scientist in his laboratory is not only a technician: he is also a child placed before natural phenomena which impress him alike a fairy tale" (Marie Skłodowska-Curie)