

**Priority question for written answer P-002498/2020
to the Commission**

Rule 138

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Subject: 5G, the virus and the immune-repressing effect of long-term exposure to radio frequency electromagnetic waves

Science shows that while short-term irradiation from radio frequency waves enhances the immune system, long-term irradiation represses it. This is not a contradiction. The mechanism of this effect is particularly well understood and has been studied in many research papers ^{1 2 3 4}: radio frequency waves open the calcium channels in the cell membranes and enhance the concentration of free radicals.

Opening these calcium channels establishes an environment that is particularly favourable for the replication of viruses. In fact, some viruses open calcium channels to enable their replication. This has been demonstrated even for Porcine deltacoronavirus (PDCoV) ⁵.

The spread of viral infections is probably accelerated by irradiation from radio frequency waves. This is a co-factor to be considered when analysing the present pandemic, alongside air pollution and smoking habits.

1. Did the Commission take into consideration the immune-repressing effect of long-term exposure to radio frequency electromagnetic waves before promoting 5G and similar techniques that considerably increase the level of irradiation?
2. Has it considered the possibly enhanced replication of viruses caused by exposure to radio frequency electromagnetic waves?
3. Which advisory board provides it with the necessary facts on the health effects of electromagnetic radiation?

¹ Siehe z.B., El-Gohary O.A. and Said M.A., 'Effect of electromagnetic waves from mobile phone on immune status of male rats: Possible protective role of vitamin D', *Canadian Journal of Physiology and Pharmacology*, 95, Canadian Science Publishing, Ottawa, 2017, pp. 151-156.

² Szmigielski S., 'Reaction of the immune system to low-level RF/MW exposures', *Science of the Total Environment*, Elsevier, Amsterdam, 2013, pp. 454-455.

³ Johansson O., 'Disturbance of the immune system by electromagnetic fields – A potentially underlying cause for cellular damage and tissue repair reduction which could lead to disease and impairment', *Pathophysiology*, 16, Elsevier, Amsterdam, 2009, pp. 157–177.

⁴ Yakymenko I et al., 'Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation', *Electromagnetic Biology and Medicine*, 35(2), Taylor and Francis Online, London, 2016, pp. 186-202.

⁵ Ponnusamy R., Moll R., Weimar T., Mesters J.R., Hilgenfeld R., 'Variable oligomerization modes in coronavirus non-structural protein 9', *Journal of Molecular Biology*, 383, Elsevier, Amsterdam, 2008, pp. 1081-1096.