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## Released-active antibodies are innovative products for the effective management of severe respiratory viral infections

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**Statement of the Problem**: Viral respiratory infections represent one of the main threats to human health. Antibodies-based therapy is a modern trend for combating viral infections, restricted by challenging administration and manufacturing. Our entirely new approach is to use antibodies (Abs) to immune regulators in a specific technological form, capable of surmounting these drawbacks. We found that after the initial Abs substance gradual consequent concentration' decrease a specific activity releases (released-activity-RA) which is not to directly neutralize the target, but to modify it, e.g., RA Abs to IFNγ and RA Abs to CD4 stimulate non-specific and specific immunity, while RA Abs to histamine influence anti-inflammatory network. These Abs' use demonstrated efficacy in experimental studies of major viral respiratory infections.

**Methodology & Theoretical Orientation**: RA Abs to IFNγ were evaluated by using standard models of influenza A/H1N1pdm09 (Oseltamivir resistant and sensitive strain), MERS-HCoV and RSV/Long infections *in vitro*; and in complex with RA Abs to histamine and RA Abs to CD4 against influenza A/H3N2 infection *in vivo*.

**Findings**: RA Abs have shown anti-influenza effect against its seasonal and pandemic strains, 2 times increasing the survival, and 10 times lowering virus titer (p<0.05) *in vivo*; enhancing Oseltamivir antiviral effect (in combination with RA Abs), decreasing viral copies number (Oseltamivir-sensitive strain) >100 times vs. Oseltamivir alone (p<0.05) *in vitro*. For the resistant strain Oseltamivir showed no effect alone, but in combination with RA Abs-a significant (>1000 times, p<0.05) virus titer decrease was found.

**Conclusion & Significance**: our fundamentally new approach to Abs' therapeutic use not only offers an opportunity to safely and effectively treat a wide spectrum of infections even the most dangerous, but also to increase the existing drugs' efficacy via their conjoin application with RA Abs.

## Biography

Emelyanova A G has completed her graduation from M V Lomonosov Moscow State University, Russia, with qualification in Pharmacy. She is currently pursuing her PhD on Pharmacology and Preclinical Studies Organization and Conduction at Institute of General Pathology and Pathophysiology, Russia. She has published manuscripts devoted to research in viral infections treatment in English and Russian reputed journals and participated in international conferences and congresses.

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