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Application of drugs based on release-active antibodies as immunotherapy agents

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High efficacy of antibodies (Abs) preparation has made Abs-based drugs widely represented among marketed medicinal products. However, despite their popularity, the use of Abs-based agents is challenged due to limitations in oral availability and problems with stability and toxicity. Phenomenon of release activity (RA) was launched by Oleg Epstein. He was the first who combined the approach of multiple circles of consecutive decrease in the substance's initial concentration and physical treatment up to the desired dilution with the use of such biotechnological product as Abs. The technologically treated Abs were shown not to neutralize the targets, but to modify the interaction between the target and the respective endogenous molecule-regulator instead. As the activity of these modified Abs is different from that of the original Abs, they are called release-active Abs. Efficacy of release-active Abs-based drugs was shown in plenty of preclinical studies and in multicenter randomized double-blind parallel-group placebo-controlled or open label comparative randomized clinical trials. The drug's high safety and lack of toxicity have been confirmed clinically and by extensive cellular and animals studies. Thus, drugs based on release-active Abs became the unique medicines which combine the high efficacy and safety and several of them are already presented on the market. These drugs showed great potential in treating the diseases eliciting an immune response (i.e., involving the process of inflammation, infection, etc) such as rheumatoid arthritis (Artrofon), viral infections (Anaferon for children, Anaferon and Ergoferon) as well as such diseases as diabetes mellitus (Subetta) and obesity (Dietressa).

Biography

Elena Gavrilova is working for her PhD at Institute of pharmacology of Tomsk Scientific Center of Russian Academy of Medical Science. She is a Research Associate and a Leader of immunoassay group in Research & Analytical department of OOO "NPF" Materia Medica Holding", Moscow. She underwent a study course in immunoassay techniques at AB Biotechnology (Edinburgh, UK). She has published 10 papers in reputed journals (including two articles in English).

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