

Use of preservatives (ingredients with anti-bacterial and anti-fungal activity) as an ingredient of various foods, cosmetics, and pharmaceutical products, inhibit growth of microorganisms what lead to prolong shelf life of those products. Well-known group of preservatives of personal care products, foods, cosmetics, and pharmaceuticals are popular parabens - synthetic chemicals that are rapidly absorbed in to the body from conserved products.

People from the entire world are asking yourselves about safety of use products which contains parabens. Last years bring disturbing data about negative influence of parabens to human health, e.g., parabens has been classified as endocrine disrupting chemicals (EDCs) as well as exogenous compounds exhibiting estrogen-like properties—xenoestrogens (XE).

Therefore, it is rightful to investigate what if the real level of parabens toxic impact on immune cells like neutrophils. Those cells are an important element of innate immunity; their proper actions determinate immediate organisms' defenses against attacks of bacteria, fungus and viruses. Moreover, neutrophils are involved in removing of abnormally working cells, raddled cellular elements and tumor cells.

Planned research are focused on assessment of parabens' influence on functions and lifespan of neutrophils—a keystone of immune responses. Moreover, perform of this project allows to verify the hypothesis does parabens exhibits estrogen-like mechanism of action in neutrophils.

Those studies will provide answers for following questions: (1) how is the level of neutrophils' potential sensitivity on parabens? (2) does parabens regulate functions and lifespan of neutrophils? (3) does parabens imitate action of natural estrogens and on this way affects on immune system cells?

Explanation of these issues fills the gap in parabens safety assessment as a popular preservative of food, pharmaceuticals and personal care products.