

## CLINICAL SPECIFICATIONS

# PARABENS

**Chemical Found In:**

Parabens are a class of chemical used as preservatives and have bactericidal and fungicidal properties. Parabens are used in many personal care and beauty products, and pharmaceuticals.

**Sources:**

[https://www.cdc.gov/biomonitoring/Parabens\\_FactSheet.html](https://www.cdc.gov/biomonitoring/Parabens_FactSheet.html)

**Known Cross-Reactions:****Clinical Significance:**

The detection of antibodies to Parabens bound to human protein in serum indicates a breakdown in immunological tolerance and induction of chemical intolerance. Parabens or their metabolites can bind to human tissue proteins and form neo-antigens. These new antigens are comprised of the haptenic chemical plus the tissue antigen. The formation of neo-antigens initiates an immune response which may result in antibody production against the chemical and the human tissue. Continued exposure to the chemical and the subsequent production of antibodies against various tissue antigens, may result in autoimmune reactivity.

Persons with antibodies to Parabens bound to human protein in serum should avoid exposure to the substance.

**References:**

1. Chen J, et al. Antiandrogenic properties of parabens and other phenolic containing small molecules in personal care products. *Toxicol Applied Pharmacol*, 2007; 221:278-284.
2. Oishi, S. Effects of propyl paraben on the male reproductive system. *Food Chem Toxicol*, 2002; 40:1807-1813.