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## Process for obtaining Nandrolone-3-carboxymethyloxime- bovine serum albumin-alkaline phosphatase (nand-3CMO-BSA-ALK-P) enzymatic marker Patent Number: RO122695/18.01.2007

### Abstract

The invention relates to a process for obtaining nandrolone-3-carboxymethyloxime-bovine serum albumin-alkaline phosphatase (Nand-3CMO-BSA-ALK-P) enzymatic marker, used in ELISA technique for detecting of chemical food contaminant nandrolone. **ELISA** (Enzyme Linked Immunoassorbent Assay) technique is an immunoassay that use antibodies to measure the concentration of an analyte. Is based on the ability of non-labeled antigen (e.g. hormone) in a specific volume of standard solution or in an unknown sample to complete with a fixed amount of enzymatic labelled antigen for a limited number of binding sites of a specific binding antibody protein. **Nandrolone (19-Nortestosterone)** is androgenic growth promoter, can be used to accelerate the growth rate of animals so that they can be brought to market earlier. The most effective growth promoters are natural sex hormones or substances that imitate the action of natural hormone. When nandrolone have been abused has resulted in high levels of residues in different foods, e.g. beef, pork and veal liver. The side effects from hormone residues include: breast enlargement, premature cessation of pubertal development and ovarian cysts in children so it is important that foods be monitored for hormone residues. Due their very low concentration in animal products, these chemical compounds can be easily determined by ELISA immunoassay technique.

### Technology stage

The obtained product can be used in ELISA immunochemical tehniue for dosing of the nandrolone steroid from biological samples; it was validated in ELISA dosing technique.

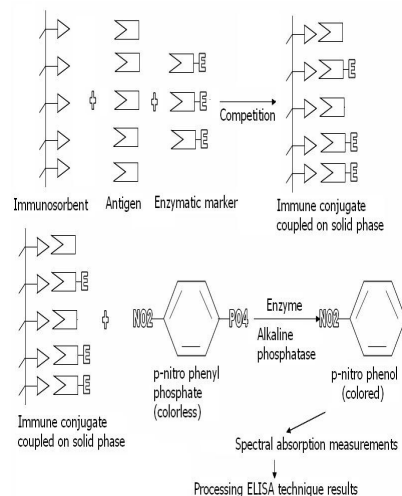
### Applications

- ELISA kits for detection of androgenic growth promoter, nandrolone from food samples which leads to increased quality of life by usin uncontaminated food;
- Human and veterinary endocrinology: quantitative determination of concentrations of anabolic substance;
- Biochemical industry.

### Advantages

- By using Nand-3-CMO-BSA product is obtained a simple link and coupling reaction with ALK-P using glutaraldehyde as coupling reagent which did not significantly change the obtained enzymatic marker activity;
- nandrolone conjugate, Nand-3-CMO-BSA presents an increased degree of recognition by antibodies against antinandrolone, this conjugate is also used to obtain antinandrolone antibodies through animals immunization;
- molecular mass of obtained enzymatic marker is smaller than the molecular mass of markers resulted from antisteroid antibody binding to the enzyme, that favors a faster kinetics when carrying out ELISA tests.

### The principle of ELISA assay for nandrolone



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