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P103. Selectivity and biological functionality of new selective modulator of progesterone receptor – novel mesoprogestin and its effect on endometrium proliferation.

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Context: Effectiveness of SPRMs as a new bifunctional agents provides a novel, tissue-selective approach with partial P4 agonist/antagonist effects. Although some of the futures of endometriosis look like cancer, it is thought that endometriosis is inflammatory, hormone-dependent disease. According to satisfy the unmet needs referring to new endometriosis treatment, based on the using highly potent and selectively working ligands to PR, the new mesoprogestin is being examined.Objectives: The transactivation profile in the complex of in vitro tests was assessed. The binding affinity towards all steroidal receptors was estimated and in vivo study referring to transformation of endometrium in the rabbits McPhail* model was examined so as to evaluate endometrium proliferation, which is elicited by disorders in paracrain system of PR/ER as well as to indicate the effect on PR and consequence of its activity during early pregnancy(rats).Methods: Transactivation profile of EC313 was carried out.Agonist/antagonist biological function was considered in vivo study.Results: It is proven that EC313 exists as a bifunctional agent of PR with the partial agonistic/antagonistic activity. Conclusion: EC313 represents new mesoprogestin, which is dedicated to inhibition and stabilization of pathological endometrium proliferation. The main advantage of new potential drug in the class of SPRMs is its tissue specificity and selectivity what makes this derivative high desirable to prevent and treat womens' endocrinological disorders-endometriosis. It is thought, that proven biological profile of EC313 makes this SPRM unique, especially then the background of other, previously discovered SPRMs, will be considered. Main dominance is based on agonistic/antagonistic efficacy and focuses on selective inhibition of endometrial proliferation without systemic effect on E2 deprivation. Specific mechanism of action quarantines new therapeutic strategy by decreasing symptoms of endometriosis. The work was supported by NCRD (grant no: POIR.01.01.01-00-0123/16) from the Smart Growth Operational Programme funds, in the framework of the European Regional Development Fund. *McPhail test was not co-funded by NCRD.

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