

# CONTRACEPTIVE COMPOUNDS

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## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,987,600	05/21/2024	2017-080

## BRIEF DESCRIPTION

Steroid hormones regulate human physiology and cellular metabolism by either slowly changing gene expression, or by a binding to a plasma membrane receptor, which leads to the activation of ion channels. The latter represents a fast signaling event that plays role in sperm activation or insulin secretion. For example, the female hormone progesterone (P4) activates the principal calcium channel of sperm (CatSper) via this fast pathway.

By testing different steroids and steroid-like molecules, UC Berkeley researchers discovered that pregnenolone sulfate (PS), a sulfated steroid hormone similar in structure to P4, is another steroid hormone that can activate CatSper in human spermatozoa. In addition, the researchers discovered two specific and nontoxic compounds found in plants that antagonize physiological function of P4 and PS, and prevent spermatozoa from reaching full fertilizing potential. These compounds can serve as contraceptives since they reduced the number of hyperactive spermatozoa, thus preventing sperm from reaching and fertilizing an egg.

## SUGGESTED USES

- » Intravaginal contraceptive
- » Oral pill

## ADVANTAGES

- » Inhibits activation of the human sperm calcium channel, i.e., is a faster acting contraceptive

## CONTACT

Terri Sale  
[terri.sale@berkeley.edu](mailto:terri.sale@berkeley.edu)  
 tel: 510-643-4219.



## INVENTORS

- » Lishko, Polina V.

## OTHER INFORMATION

### KEYWORDS

Sperm, contraceptive, fertility,  
 spermicide

### CATEGORIZED AS

- » **Biotechnology**
- » Health
- » **Medical**
- » Disease: Women's Health
- » New Chemical Entities, Drug Leads

### RELATED CASES

2017-080-0