Product Data Sheet

Chemical Properties

Product Name: 17-Hydroxyprogesterone
Cas No.: 68-96-2
M.Wt: 330.46
Formula: C21H30O3

Chemical Name: (8R,9S,10R,13S,14S,17R)-17-acetyl-17-hydroxy-10,13-dimethyl-6,7,8 ,9,10,11,12,13,14,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthren-3(2H)-one

Canonical SMILES: CC([C@@]1(O)CC[C@@]2([H])[C@][C@@]3([H])CC[C@@]21C)([H])C CC4=CC(C[C@@]43C)=O)=O

Solubility: Soluble in DMSO

Storage: Store at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Endocrinology and Hormones
Pathways: Estrogen/progestogen Receptor

Description:

17-Hydroxyprogesterone, an endogenous progestogen and chemical intermediate in the biosynthesis of other steroid hormones, is also the parent compound of various progestins derivatives.
In vitro: 17-Hydroxyprogesterone was found to be an agonist of the progesterone receptor (PR), which was similarly to progesterone. In addition, 17-hydroxyprogesterone was also an antagonist of the mineralocorticoid receptor (MR) as well as a partial agonist of the glucocorticoid receptor (GR), with very low potency (EC50>100-fold less relative to cortisol), which was also similarly to progesterone [1].

In vivo: Findings from a previous rat in vivo study demonstrated that even if modest, lowering blood pressure with 17-hydroxyprogesterone could be a viable treatment selection for blocking inflammation and uterine artery vasoconstriction, whereas improving litter size [2].

Clinical trial: Clinically, 17-hydroxyprogesterone has been evaluated in newborn screening programs as the biomarker to detect the rare but potentially fatal inherited disease, such as congenital adrenal hyperplasia. Results showed that the respiratory distress syndrome was related with higher 17-hydroxyprogesterone level. In addition, higher 17-hydroxyprogesterone and false positives were found to be significantly related with lower gestational age and birth weight, which was the same as that previously reported [3].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.