SANTA CRUZ BIOTECHNOLOGY, INC.

17-β Estradiol (5E500): sc-69961

BACKGROUND

17-β Estradiol is a potent mammalian estrogenic hormone that is produced in the ovaries (by the granulosa cells), placenta, testis and possibly the adrenal cortex. The hormone is synthesized enzymatically from acetate, cholesterol, progesterone and testosterone. In addition to anatomic and physiological regulation of reproduction and secondary sex characteristics, it also influences activities such as bone growth, brain development and maturation, and the intracellular concentrations of calcium and certain second messenger molecules. Research demonstrates salutary effects of 17-β Estradiol following trauma-hemorrhage on different cell types. It also induces improved circulation through relaxation of the aorta and has an anti-apoptotic effect on endothelial cells. 17-β Estradiol is implicated in the attenuation of H_2O_2-induced apoptosis via ER-dependent activation of caspase-9 and -3 in rat endothelial cells through mitochondria.

REFERENCES

1. Massart, F., et al. 2002. Dose-dependent inhibition of mitochondrial ATP synthase by 17-β Estradiol. Gynecol. Endocrinol. 16: 373-377.
2. Gourdy, P., et al. 2003. The atheroprotective effect of 17-β Estradiol is not altered in P-selectin- or ICAM-1-deficient hypercholesterolemic mice. Atherosclerosis 166: 41-48.
3. Ye, L., et al. 2003. Biphasic effects of 17-β Estradiol on expression of occludin and transendothelial resistance and paracellular permeability in human vascular endothelial cells. J. Cell. Physiol. 196: 362-369.
4. Dando, T.M., et al. 2004. 17-β Estradiol/levonorgestrel transdermal system. Treat. Endocrinol. 3: 319-324.
5. Karpuzoglu-Sahin, E., et al. 2005. Short-term administration of 17-β Estradiol to outbred male CD-1 mice induces changes in the immune system, but not in reproductive organs. Immunol. Invest. 34: 1-26.
6. Rocha, B.A., et al. 2005. 17-β Estradiol-induced antidepressant-like effect in the forced swim test is absent in estrogen receptor-β knockout (BERKO) mice. Psychopharmacology 179: 637-643.
7. Hemelaar, M., et al. 2006. Intranasal continuous combined 17-β Estradiol/norethisterone therapy improves the lipid profile in healthy postmenopausal women. Fertil. Steril. 85: 979-988.
8. Perez Martínez, S., et al. 2006. 17-β Estradiol upregulates COX-2 in the rat oviduct. Prostaglandins Other Lipid Mediat. 80: 155-164.
9. Suzuki, T., et al. 2006. 17-β Estradiol administration following trauma-hemorrhage prevents the increase in Kupffer cell cytokine production and MAPK activation predominately via estrogen receptor α. Surgery 140: 141-148.

SOURCE

17-β Estradiol (5E500) is a mouse monoclonal antibody raised against 17-β Estradiol conjugated to BSA.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

17-β Estradiol (5E500) is recommended for detection of 17β-Estradiol-BSA conjugate and free estradiol of mouse, rat and human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SELECT PRODUCT CITATIONS

1. Kang, Y.E., et al. 2020. Nanochannel-driven rapid capture of sub-nanogram level biomarkers for painless preeclampsia diagnosis. Biosens. Bioelectron. 163: 112281.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.