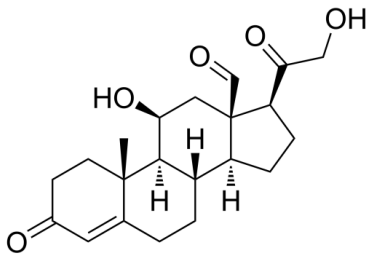
Data Sheet

Product Name:	Aldosterone
Cat. No.:	CS-0059576
CAS No.:	52-39-1
Molecular Formula:	$C_{21}H_{28}O_5$
Molecular Weight:	360.44
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : 100 mg/mL (ultrasonic);Ethanol : 33.33 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

Aldosterone is the primary mineralocorticoid. Aldosterone is a steroid hormone, and it is synthesized and secreted in response to renin-angiotensin system activation (RAS) or high dietary potassium by the zona glomerulosa (ZG) of the adrenal cortex. Aldosterone activity is dependent by the binding and activation of the cytoplasmic/nuclear mineralocorticoid receptor (MR) at cellular level[1][2]. ***In Vitro:*** Aldosterone (1-1000 nM; 24 hours) inhibits interleukin-1β-stimulated nitrite production by vascular smooth muscle cells in a dose-dependent manner[3]. ***In Vivo:*** Aldosterone (1 mg/Kg+1% NaCl; i.h.; once daily for 3 weeks) significantly increases systolic blood pressure (SBP), diastolic blood pressure (DBP), left ventricular systolic pressure (LVSP) and left ventricular end-diastolic pressure (LVEDP)[4].

Aldosterone (0.72 mg/kg/day; 14 days) causes a small increase (14 mmHg) in blood pressure in male mice[5].

References:

[1]. Nanba K, et al. Aging and Adrenal Aldosterone Production. Hypertension. 2018 Feb;71(2):218-223.

[2]. Cannavo A, et al. Aldosterone and Mineralocorticoid Receptor System in Cardiovascular Physiology and Pathophysiology. Oxid Med Cell Longev. 2018 Sep 19;2018:1204598.

[3]. Ikeda U, et al. Aldosterone inhibits nitric oxide synthesis in rat vascular smooth muscle cells induced by interleukin-1 beta. Eur J Pharmacol. 1995 Jul 18;290(2):69-73.

[4]. Martín-Fernández B, et al. Beneficial effects of proanthocyanidins in the cardiac alterations induced by aldosterone in ratheart through mineralocorticoid receptor blockade. PLoS One. 2014 Oct 29;9(10):e111104.

[5]. Dinh QN, et al. Aldosterone-induced oxidative stress and inflammation in the brain are mediated by the endothelial cell mineralocorticoid receptor. Brain Res. 2016 Apr 15;1637:146-153.

CAIndexNames:

Pregn-4-en-18-al,11,21-dihydroxy-3,20-dioxo-,(11β)-

SMILES:

C[C@@]12[C@@]3([H])[C@@H](O)C[C@]4(C=O)[C@@H](C(CO)=O)CC[C@@]4([H])[C@]3([H])CCC1=CC(CC2)=O

Caution: Product has not been fully validated for medical applications. For research use only.

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