

Product data sheet



MedKoo Cat#: 591210 Name: Adrenochrome CAS#: 54-06-8 Chemical Formula: C ₉ H ₉ NO ₃ Exact Mass: 179.0582 Molecular Weight: 179.18	
Product supplied as: Powder	
Purity (by HPLC): ≥ 98%	
Shipping conditions: Ambient temperature	
Storage conditions: Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Adrenochrome, also known as Adraxone, is a chemical compound produced by the oxidation of adrenaline (epinephrine). The derivative carbazochrome is a hemostatic medication.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	100	558.10

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	5.58 mL	27.90 mL	55.81 mL
5 mM	1.12 mL	5.58 mL	11.16 mL
10 mM	0.56 mL	2.79 mL	5.58 mL
50 mM	0.11 mL	0.56 mL	1.12 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Moreau V, Novak MJ, Moore LK. Effect of adrenalin, adrenochrome, and adrenolutin on connexin proteins in the cardiovascular. *Toxicol Mech Methods*. 2006;16(7):373-7. doi: 10.1080/15376520600632039. PMID: 20021010.
2. Zhou Q, Hulea S, Kummerow FA. Effects of adrenochrome and epinephrine on human arterial endothelial cells in vitro. *Res Commun Mol Pathol Pharmacol*. 1995 Jul;89(1):111-26. PMID: 7582857.

In vivo study

1. Oginuma M, Shimada H, Imamura Y. Involvement of carbonyl reductase in superoxide formation through redox cycling of adrenochrome and 9,10-phenanthrenequinone in pig heart. *Chem Biol Interact*. 2005 Aug 15;155(3):148-54. doi: 10.1016/j.cbi.2005.06.002. PMID: 16026774.
2. Moreau V, Novak MJ, Moore LK. Effect of adrenalin, adrenochrome, and adrenolutin on connexin proteins in the cardiovascular. *Toxicol Mech Methods*. 2006;16(7):373-7. doi: 10.1080/15376520600632039. PMID: 20021010.

7. Bioactivity

Biological target:

Adrenochrome is an oxidation product of Epinephrine. Adrenochrome is a potent coronary constricting agent in the rat heart. Adrenochrome can be used for neurological disorder research.

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In vitro activity

This study found that in cultured human umbilical arterial endothelial cells, adrenochrome inhibited [3H]thymidine incorporation, decreased protein content, stimulated [3H]cholesterol uptake, and decreased prostacyclin production after 3, 5, 24 and 5 hrs of 200 microM, respectively, compared with control.

Reference: Res Commun Mol Pathol Pharmacol. 1995 Jul;89(1):111-26. <https://pubmed.ncbi.nlm.nih.gov/7582857/>

In vivo activity

Phenanthrenequinone mediated efficiently the formation of superoxide anion radical through its redox cycling in pig heart cytosol, adrenochrome had no ability to mediate the superoxide formation. These may be because the reactivity for adrenochrome, catalyzed by pig heart carbonyl reductase, is much lower than that for phenanthrenequinone.

Reference: Chem Biol Interact. 2005 Aug 15;155(3):148-54. <https://pubmed.ncbi.nlm.nih.gov/16026774/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.