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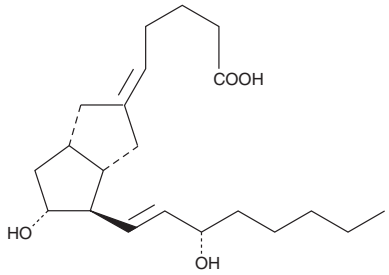
PRODUCT INFORMATION

Carbaprostacyclin

Item No. 18210

CAS Registry No.:	69552-46-1
Formal Name:	6,9α-methylene-11α,15S-dihydroxy-prosta-5E,13E-dien-1-oic acid
Synonyms:	Carbacyclin, cPGI
MF:	$C_{21}H_{34}O_4$
FW:	350.5
Purity:	≥98%
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥1 year



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Carbaprostacyclin is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of carbaprostacyclin in these solvents is approximately 20, 5, and 10 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of carbaprostacyclin is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of carbaprostacyclin in PBS (pH 7.2) is approximately 0.08 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Carbaprostacyclin is a stable analog of PGI_2. When infused in rabbits or dogs, it inhibits *ex vivo* platelet aggregation, but the effect persists only 10 minutes after termination of the infusion. This implies rapid metabolic inactivation of carbaprostacyclin.[1] Carbaprostacyclin inhibits platelet aggregation with 10% of the molar potency exhibited by PGI_2.[1,2] The ED_{50} of carbaprostacyclin for the *in vitro* inhibition of ADP-induced platelet aggregation in human PRP is 47 nM.[3] It was also shown to effect terminal differentiation of preadipose into adipose cells and enhance the expression of angiotensinogen and adipose fatty acid binding protein with an EC_{50} of about 0.5 µM.[4]

References

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2. Aiken, J.W. and Shebuski, R.J. Comparison in anesthetized dogs of the anti-aggregatory and hemodynamic effects of prostacyclin and a chemically stable prostacyclin analog, 6a-CARBA-PGI_2 (carbacyclin). *Prostaglandins* **19(4)**, 629-643 (1980).
3. Adaikan, P.G., Karim, S.M.M., and Lau, L.C. Platelet and other effects of carboprostacyclin - a stable prostacyclin analogue. *Prostaglandins Med.* **5(4)**, 307-320 (1980).
4. Aubert, J., Ailhaud, G., and Negrel, R. Evidence for a novel regulatory pathway activated by (carba)prostacyclin in preadipose and adipose cells. *FEBS Lett.* **397(1)**, 117-121 (1996).

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