PRODUCT INFORMATION

Prostaglandin I$_2$ (sodium salt)
Item No. 18220

CAS Registry No.: 61849-14-7
Formal Name: 6,9α-epoxy-11α,15β-dihydroxyprosta-5Z,13E-dien-1-oic acid, monosodium salt
Synonyms: Epoprostenol, PGI$_2$, Prostacyclin
MF: C$_{20}$H$_{31}$O$_5$ • Na
FW: 374.5
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years

Special Conditions: Hygroscopic

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

Laboratory Procedures

For long term storage, we suggest that prostaglandin I$_2$ (PGI$_2$) (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

PGI$_2$ (sodium salt) is a hygroscopic crystalline solid soluble in water. It is unstable at neutral or acidic pH. On exposure to open air, the compound will absorb moisture and hydrolyze rapidly to 6-keto PGF$_{1α}$. An aqueous stock solution of PGI$_2$ (sodium salt) can be prepared by dissolving the crystalline solid directly in basic buffers (pH >10.2). The solubility of PGI$_2$ (sodium salt) in PBS (pH >10.2) is approximately 10 mg/ml. Solutions of PGI$_2$ (sodium salt) at physiologic pH and room temperature will have a half-life from 1 to 12 minutes depending on buffer concentration.1,2

Description

PGI$_2$ is an unstable cyclooxygenase metabolite detected first in vascular endothelial cells.1,3,4 It elevates platelet cAMP and is a potent vasodilator and inhibitor of human platelet aggregation with an IC$_{50}$ value of 5 nM.5 PGI$_2$ is stable in basic buffers (pH = 8), but it is rapidly hydrolyzed to 6-keto PGF$_{1α}$ in neutral or acidic solutions. The half-life is short both in vivo and in vitro, ranging from 30 seconds to a few minutes. PGI$_2$ is administered by continuous infusion in humans for the treatment of idiopathic pulmonary hypertension.6

References