Prostaglandin J\(_2\)

Item No. 18500

**CAS Registry No.:** 60203-57-8  
**Formal Name:** 11-oxo-15S-hydroxy-prosta-5Z,9,13E-trien-1-oic acid  
**Synonym:** PGJ\(_2\)  
**MF:** C\(_{20}\)H\(_{30}\)O\(_4\)  
**FW:** 334.5  
**Purity:** ≥95%  
**Stability:** ≥1 year at -80°C  
**Supplied as:** A solution in methyl acetate  
**UV/Vis.:** \(\lambda_{\text{max}}\): 216 nm

### Laboratory Procedures

For long term storage, we suggest that prostaglandin J\(_2\) (PGJ\(_2\)) be stored as supplied at -80°C. It should be stable for at least one year.

PGJ\(_2\) 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, methanol, acetone, acetonitrile, or DMSO purged with an inert gas or nitrogen can be used. The solubility of PGJ\(_2\) in these solvents is approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. PGJ\(_2\) is stable for several hours in neutral phosphate buffer. The half-life of PGJ\(_2\) is about 10 minutes in PBS (pH 7.4 with 1% BSA) and is reduced to about 30 seconds in plasma.\(^1\) All aqueous solutions of PGJ\(_2\) should be maintained near pH 7.0, since both acid and base will accelerate decomposition to form \(\Delta^{12}\)-PGJ\(_2\) and other by-products. Also, ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

PGJ\(_2\) is formed from PGD\(_2\) by the elimination of the C-9 hydroxyl group, a process which is accelerated by the presence of albumin.\(^1\) PGJ\(_2\) inhibits platelet aggregation with an IC\(_{50}\) value of about 5-10 nM.\(^2,3\) PGJ\(_2\) has been shown to have antimitotic and antiproliferative effects on a variety of cultured normal cells and tumor cell lines.\(^4\) However, this activity has been attributed to further metabolites of PGJ\(_2\) and not the parent compound itself.

### References