Prostaglandin

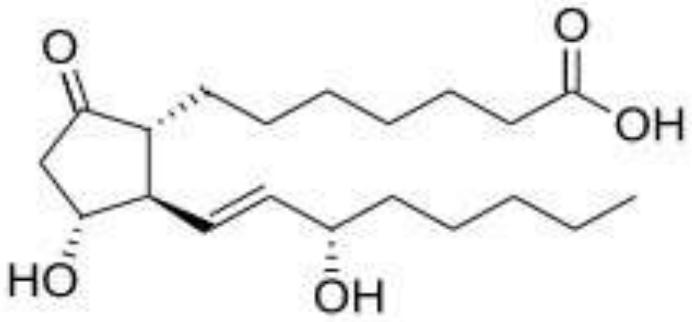
The **prostaglandins** (**PG**) are a group of physiologically active lipid compounds called eicosanoids having diverse hormone-like effects in animals. Prostaglandins have been found in almost every tissue in humans and other animals. They are derived enzymatically from the fatty acid arachidonic acid. Every prostaglandin contains 20 carbon atoms, including a 5-carbon ring.

Functions

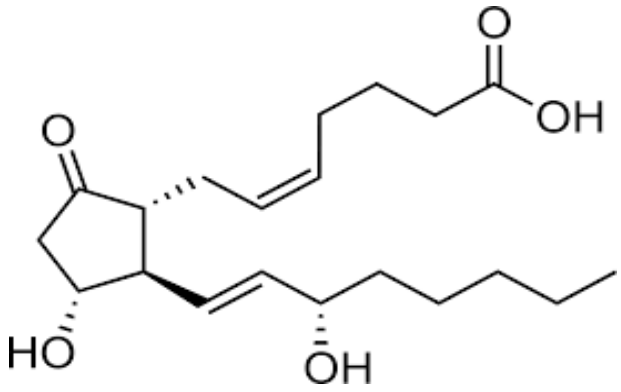
- cause constriction or dilation in vascular smooth muscle cells
- cause aggregation or disaggregation of platelets
- sensitize spinal neurons to pain
- induce labor
- decrease intraocular pressure
- regulate inflammation
- regulate calcium movement
- regulate hormones
- control cell growth
- acts on thermoregulatory center of hypothalamus to produce fever
- acts on mesangial cells (specialised smooth muscle cells) in the glomerulus of the kidney to increase glomerular filtration rate
- acts on parietal cells in the stomach wall to inhibit acid secretion
- increase mucus production and bicarbonate secretion

Structure

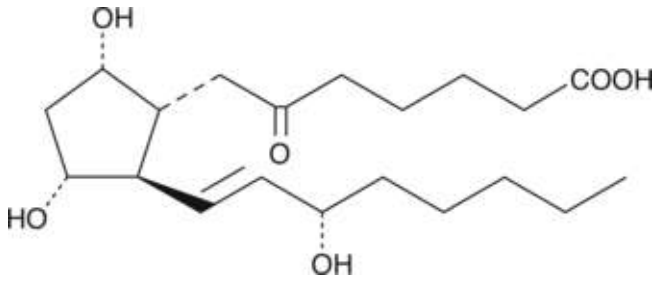
PGE1



PGE2



PGF1α



PGF2α