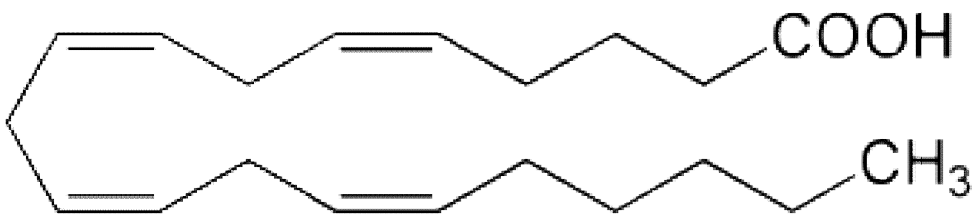
1.3 Prostaglandins Biosynthesis

Prostaglandins are found in most tissues and organs. They are produced by almost all nucleated cells. They are autocrine and paracrine lipid mediators that act upon platelets, endothelium, uterine and mast cells. They are synthesized in the cell from the essential fatty acids (EFAs).

There are three series of prostaglandins (PGE) (PGE1, PGE2 and PGE3). The most abundant series in human is the series PGE2. The precursor for this series of prostaglandin is arachidonic acid. Arachidonic acid (fig1.3) is an unsaturated essential fatty acid present in the phospholipids of of membranes of the body's cells.

The biological active derivatives of arachidonic acid are called eicosanoids including prostaglandins and leukotrienes.



Arachidonic acid

Figure1.3 Arachidonic acid structure