International Conference on Innovations in Science, Engineering, Management & Humanities
(ICISEMH – 2022)
24TH April, 2022, Hyderabad, Telangana, India

CERTIFICATE NO : ICISEMH /2022/ C0422446

EXPERIMENTAL ANALYSIS ON FUNCTIONS OF PROSTAGLANDINS ANALOGUES

JAHNAVI CHIRIKI

Research Scholar, Department of Chemistry,
Sri Satya Sai University of Technology & Medical Sciences, Sehore, M.P.

ABSTRACT

PGs are chemical messengers that mimic hormones and are involved in a wide variety of human biological activities. Immune system control, inflammation-induced fever and discomfort, hemostasis, and blood pressure control are a few examples. In light of the relevance of PGs in biology, immunology, pharmaceutics, and other fields, a number of review papers have been published. At the cellular level, PGs are created in response to external stimuli and function as autacoids through particular cell surface receptors, contributing to the inflammatory response. Peptides like PG cause inflammation by attaching to seven-transmembrane domain receptors (also known as GPCR). Both the cAMP and phosphatidylinositol signalling pathways rely on these receptors for signal transmission. It is possible to categorise PG receptors into five main categories: PG (PGE), PGD, PGF (PGI), and TXA (TXA). PGs may trigger a broad range of signal transduction processes in a variety of cell types and modulate unique biological consequences because of their varied receptors. Pro-inflammatory and anti-inflammatory cellular activities are mediated by PGE2. A variety of physiological processes, including as pain perception, oogenesis, ovulation, fertilisation, fever production, and bone resorption, are affected by PGE2 binding to PGE receptors, which may be classified as EP1, EP2, EP3, and EP4. Both DP1 and DP2 subtypes of PGD receptors may be bound to PGD2 molecule. The central nervous system, pain, non-rapid eye movement sleep (NREM), chemotaxis, and allergy-induced asthma are all affected by this chemical. Progesterone-like Growth Factor 2 (PGF2), which has been shown to have a significant function both in the development and maturation of the female reproductive system, is a key agonist for PGF receptors.