# Mrs. Sherry-Ann Allsopp
# PhD Pharmacology

## Biography

Mrs. Sherry-Ann Allsopp is pursuing a Doctorate of Philosophy in Pharmacology at the University of the West Indies, Cave Hill Campus. Her research interest is in the area of cannabinoid pharmacology and type 2 diabetes mellitus.

She obtained a Bachelor of Science degree in Mathematics in 1999 (Upper Second Class Honours) along with a Master of Philosophy degree in Chemistry in 2002 (concentrating in Natural Products Chemistry) from the University of the West Indies, Cave Hill Campus. In addition to a Master of Science degree in Pharmaceutical Analysis and Quality Control from King's College, London, England, Mrs. Allsopp is also a member of the Institution of Occupational Safety and Health where she holds the designation of technical member (Tech IOSH).

She previously worked as a Research Associate for nine years at the Shire Intellectual Property (SRL) lab where she prepared high quality extracts and purified compounds from local flora for screening anti- Hepatitis C virus and anti-inflammatory activity.

Mrs. Allsopp is passionate about research and believes that our local flora is a reservoir of benefits waiting to be tapped.

# The Impact of Cannabinoid-type 2 Receptor Activation on Glucagon-like Peptide 1 Receptor-mediated Insulin Secretion

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## Abstract

Medicinal cannabis and cannabinoid-based products are becoming more accessible as policies continue to globally change towards the status of *Cannabis sativa*. It is likely that patients with type-2 diabetes (T2D) might opt to use these products as a means of controlling this debilitating disease. Moreover, others might use them in an attempt to relieve neuropathic pain associated with complications of T2D while still actively taking their medication.

Incretin mimetics or glucagon-like peptide 1 receptor (GLP-1R) agonists represent a class of medication prescribed for the control of glucose in T2D. By activating the GLP-1R, a G-protein coupled receptor located on the pancreatic beta cell, these molecules augment glucose-stimulated insulin secretion, and improve whole-body glucose homeostasis.

Cannabinoids exert their activity via two classical cannabinoid receptors, cannabinoid-1 and 2 (CB1R and CB2R, respectively), which are also G-protein coupled receptors located in several parts of the body including the pancreatic beta cell. Recently, it has been shown that CB1R blockade resulted in an increase in GLP-1R-mediated insulin secretion. However, globalblockade of CB1R results in unfavourable psychological effects. To date, no investigations have been conducted on the impact of CB2R on the GLP-1R-mediated insulin secretion.

# The Impact of Cannabinoid-type 2 Receptor Activation on Glucagon-like Peptide 1 Receptor-mediated Insulin Secretion

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## Abstract (Cont'd)

By using a Chinese hamster ovary cell line stably and transiently transfected with both GLP-1R and CB2R respectively, as well as utilizing agonists and antagonists of these receptors, I will investigate whether modulation of the CB2R has an impact on GLP-1R-mediated insulin secretion by assessing cyclic adenosine monophosphate (cAMP) accumulation and the underlying signalling pathway.