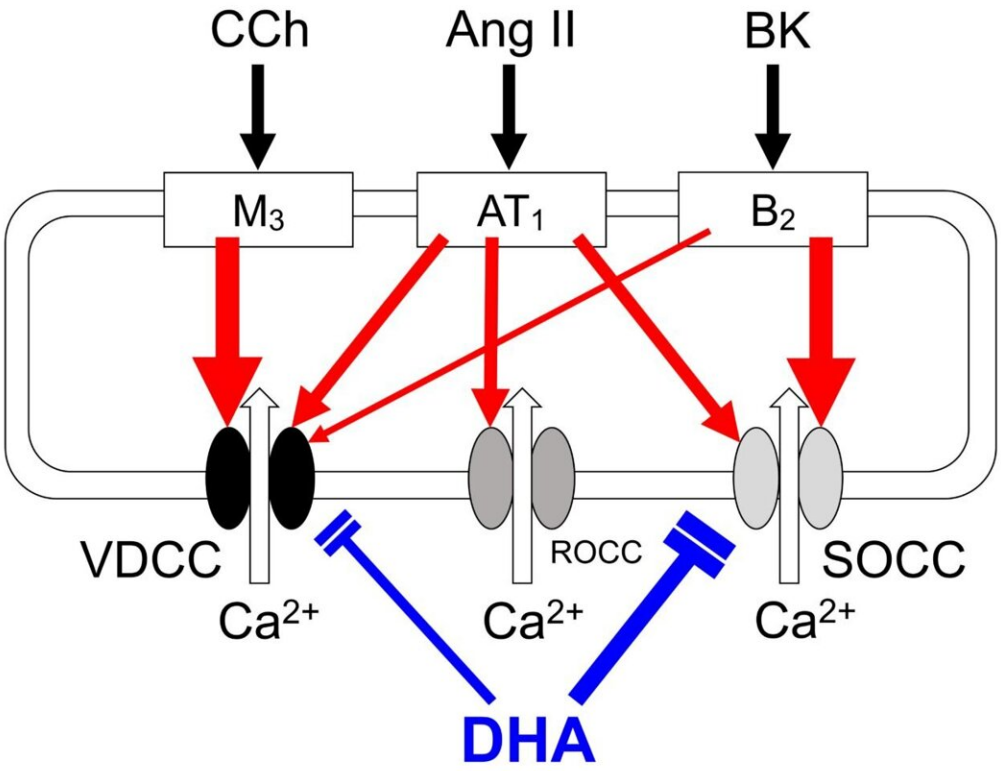
Docosahexaenoic acid found to suppress gastric fundus smooth muscle contractions by inhibiting the Orai1 channel

July 22 2024



DHA has previously been shown to inhibit voltage-dependent Ca^{2+} channels (VDCCs). The research group found a new pharmacological action of DHA to inhibit the Orai1 channel, which is one of store-operated Ca^{2+} channels (SOCCs). Credit: Dr. Keisuke Obara

A research group led by Dr. Keisuke Obara, Dr. Kento Yoshioka, and Professor Yoshio Tanaka of the Department of Chemical Pharmacology, Faculty of Pharmaceutical Sciences, Toho University, has found that docosahexaenoic acid (DHA), which is abundant in fish oil, suppresses gastric fundus smooth muscle contractions induced by physiologically active substances such as bradykinin.

Although DHA has previously been shown to inhibit voltage-dependent Ca^{2+} channels (VDCCs), the research group found a new pharmacological action of DHA to inhibit the Orai1 channel, which is one of store-operated Ca^{2+} channels (SOCCs). These findings suggest that DHA prevents and improves excessive gastric motility by inhibiting two types of Ca^{2+} entry channels.

The results of this research are published in the journal *Scientific Reports*.

More information: Keyue Xu et al, Inhibitory mechanisms of docosahexaenoic acid on carbachol-, angiotensin II-, and bradykinin-induced contractions in guinea pig gastric fundus smooth muscle, *Scientific Reports* (2024). DOI: 10.1038/s41598-024-62578-y

Provided by Toho University