

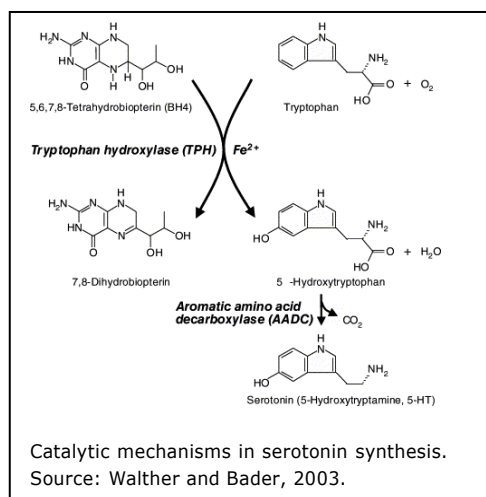
Technology Offer

Substances modulating primary haemostasis

Reference Number
TO 03-0092

The Challenge

Serotonin (5-hydroxytryptamine, 5-HT) is an endogenous signal molecule with several important functions in man. In the brain, it acts as a neurotransmitter, centrally controlling complex biological functions like food intake, sleep, and mood. In addition, 5-HT is a peripheral hormone produced mainly by enterochromaffin cells in the intestine and stored in platelets, where it is involved in vasoconstriction, haemostasis, and the control of immune responses.



Tryptophan hydroxylase (TPH) catalyzes the rate limiting step in 5-HT synthesis. Recently, the existence of a neuronal and a peripheral isoform of TPH was described. The identification of two different genes coding for separate enzymes with identical activity and substrate selectivity, but distinct tissue-specific expression and regulation opens up novel chances for a selective treatment of diseases related to dysfunctions of the peripheral or central serotonin system. In particular, upon use of

selective modulators of the peripheral enzyme, a specific treatment of diseases and symptoms related to primary haemostasis, gets accessible.

The Technology

The technology provides pharmaceutical compositions, comprising agents that positively or negatively act on the level of serotonin in thrombocytes, or more generally act as tissue-specific modulator of peripheral TPH, and thus mediate a serotonin effect on primary haemostasis. In particular, peripherally active stimulatory molecules could significantly reduce haemostasis side effects of drugs used for treatment of psychiatric diseases. In contrast, compounds inhibiting peripheral serotonin levels result in a reduced risk of thrombosis and thromboembolism in patients, thus providing preventive and therapeutic value for the treatment of cardiovascular diseases.

Commercial Opportunity

- In-licensing opportunity of IP
- Collaboration for development of periphery-specific modulators of TPH

Patent situation

A US Patent has been granted (US 7,049,336). A patent application is pending in Japan (WO 02/17891).

Further Reading

Walther and Bader, 2003, *Biochem Pharmacol*, 66, 1673-80.
Walther et al., 2003, *Cell*, 115(7), 851-862.
Weinrieb et al., 2005, *Expert Opin Drug Saf*, 4(2), 337-344.

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