

Inhibitors of NO-Synthases

General

NO-Synthases (NOS) catalyse the degradation of the amino acid L-Arginin into nitrate monoxide (NO) and L-Citrullin. Due to the involvement of the surplus production of NO in numerous pathological processes (e.g. Alzheimer's disease, Diabetes mellitus, Parkinson's disease, multiple sklerosis, rheumatoid arthritis, septic shock, asthma bronchiale, migraine) the development of NOS inhibitors is considered as a promising strategy.

State of the art

Numerous NOS inhibitors have been developed so far, some of them have also proven effective against the above mentioned diseases in animal models. Unfortunately, none of them has been developed to a pharmaceutical product until now.

The invention

The substances of the invention are highly effective low-molecular NOS inhibitors. They can be synthesised easily and inexpensively in high purity via standard methods and exhibit selectivity for the bNOS present in the central nervous system which is involved in neuronal diseases as Alzheimer's and Parkinson's disease, multiple sclerosis and migraine (see Fig. 1). Thus, it is of particular importance that the inhibitors, after oral up-take and subsequent resorption via the intestinal epithelium, are able to cross the blood-brain barrier.

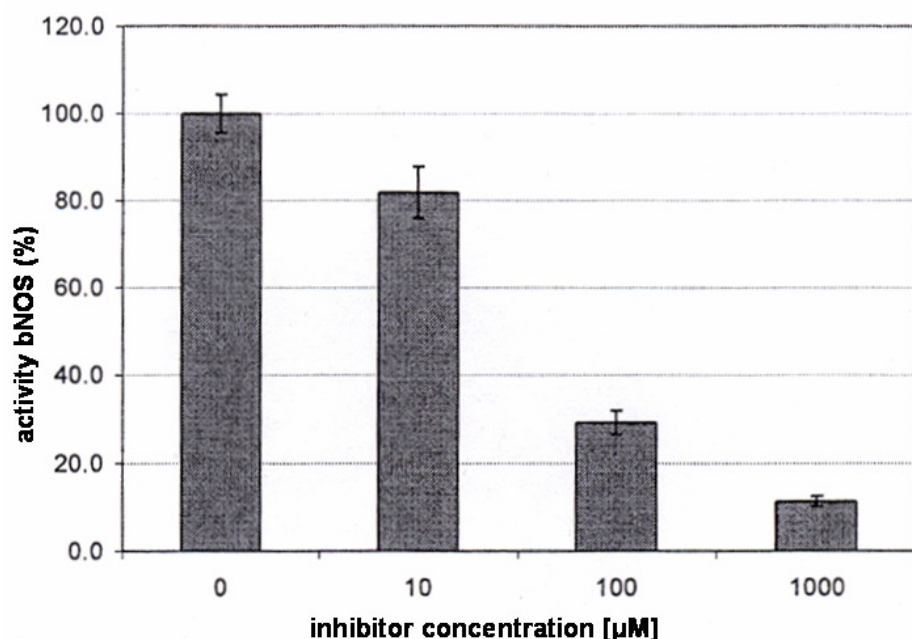







Fig. 1: Concentration-dependent inhibition of bNOS by one of the selective bNOS inhibitors (*in vitro*).

Advantages

-  inhibitors suitable for oral application, effective intestinal resorption
-  inhibitors cross the blood-brain barrier
-  effective and selective inhibition of the bNOS in the CNS
-  suitable for the treatment of Alzheimer's and Parkinson's disease, multiple sclerosis and migraine
-  can be synthesised easily and inexpensively in high purity via standard methods

Utilisation concept

PVA SH GmbH is looking for industrial partners who are interested in licensing the invention.

Contact

PVA SH GmbH

Dr. Dagmar Gieseler
Wissenschaftszentrum
Fraunhoferstr. 13
24118 Kiel

Tel. (0431) 800 99 39
FAX (0431) 800 99 33
E-Mail gieseler@pva-sh.de