Diabetic Treatment and Prevention

Specific Inhibitor of Human 12-Lipoxygenase for the Treatment and Prevention of Diabetes and Other Diseases

Diabetes Treatment and Prevention
This small molecule inhibitor of platelet type 12 lipoxygenase protects human β pancreatic cells against the inflammatory cytokine damage that leads to diabetes. It is suitable to develop as a pharmaceutical treatment and preventative for diabetics and pre-diabetics.

The enzyme also has a role in skin diseases, platelet hemostasis, thrombosis, and cancers of the prostate, colon, rectum, breast, and lung. This may allow for expanded uses in treating other diseases.

Pharmaceutical Characteristics
There is currently no FDA approved 12-LOX targeted therapeutics. Studies have shown excellent selectivity over other related lipoxygenases and cyclooxygenases with nM potency. There is favorable absorption, distribution, metabolism, and excretion, as well as good in vivo pharmacokinetics. The compound is non-reductive, unlike other known inhibitors of 12-LOX.

Market
There are currently 382 million people worldwide living with diabetes with an expected increase of 55% by 2035. The branded and generic global diabetes drug market was over $28 billion in 2012.

This drug may also be appropriate for development as a treatment for cancers, skin diseases, and clotting diseases including myocardial infarct and stroke.

Opportunity
EVMS is seeking sponsored research and/or licensing partners to commercialize this technology.

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Technology
LOX12 Inhibitor Drug

Field
Diabetes, Clotting, and Cancer Therapeutics

Key Benefits
- Highly Specific for LOX12
- Treatment and prevention
- Positive preliminary ADME
- Expandable to additional treatment arenas

Stage of Development
Active in Mouse cell lines and human ex vivo pancreatic β cell with ongoing studies in mouse models

Status
Seeking licensing partner and/or sponsored research

Patent Status
Patent Application