sulfateq

Hibernation applied in life sciences

Preventing Acute Kidney Injury, inspired by hibernation

www.sulfateqbv.com | info@sulfateqbv.com

Hibernation applied in life sciences

About Sulfateq B.V.
Sulfateq is an innovative start-up from the Netherlands which has developed propriety SUL compounds which are currently in pre-clinical phase. The compounds emerged from research on hibernation and provide a new mechanism of action for cell protection, organ protection and prophylactic use. Our team has a lot of experience in the medical market and on board are internationally known clinicians who work for the University Medical Hospital Clinic (UMCG Groningen) and have extensive experience with clinical trials, especially in kidney diseases.

Our main focus; prevention of Acute Kidney Injury (AKI)
The main focus of our lead compound SUL-138 is the prevention of Acute Kidney Injury (AKI) during cardiac surgery. The incidence of postoperative AKI of patients undergoing cardiac surgery is 15-30%, with 1.5 million occurrences a year worldwide. Hence, AKI can therefore be considered a major health risk and medical need. Sulfateq BV has conducted successful animal studies using its SUL-compounds to inhibit the occurrence of kidney injury following damage. SUL-138 is focused around AKI during invasive (heart) surgery, as successful prophylactic treatment it will increase post-operative survival rate and decrease the hospitalization costs. We therefore see huge potential to address this major organ related medical need with SUL-compounds based drug development.

At this moment Sulfateq is engaged in final pre-clinical development of SUL-138, i.e. safety pharmacology, while drafting proposals for Phase I and Phase II clinical studies.
The choice for AKI has the following rationale:

- There is currently no therapy available for kidney protection, or organ protection in general, during major surgery
- The incidence of AKI is approx. 1.5 million patients a year worldwide
- In the USA alone, hospital-acquired AKI accounts for approx. 9 billion USD in medical costs annually
- The clinical development of AKI treatments are relatively short, because:
    - Open-heart surgery has a worldwide standardized protocol
    - In surgery treatment and monitoring is performed by an anaesthesiologist
    - Well-defined clinical biomarkers and outcomes
- Good monitoring protocols for patients enrolled in RCTs (before, during, after)
- Close working relationship with Local Centre of Excellence (University Medical Centre Groningen, Nephrology) who have a extensive experience with clinical trials especially in kidney disease

Prevention of Acute Kidney Injury

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How does SUL-138 work

The compounds emerged from research on hibernation and its natural process of hibernation. This is characterized by continuous cooling-rewarming cycles (torpor and arousal), which evoke critical organ damage in non-hibernating mammals, but not in hibernating mammals. Sulfateq has been inspired by mammalian hibernation to develop new propriety compounds that can offer similar protection against organ damage. In pre-clinical testing, SUL-138 show high efficacy in the protection against cooling-rewarming damage in cell culture, and animal models for acute and chronic kidney disease.

Thus far, SUL-138 has proven to increase mitochondrial respiration during stress, thereby allowing for faster recovery of ATP. This effect was observed in various cell culture models for oxidative stress and cooling-rewarming injury. Moreover, in an animal experiment employing a deep, whole body cooling in an anesthetized rat, the mixture of stereoisomer (the fully protect the kidney from cooling-rewarming induced organ damage). In this experiment, this mixture was administered via continuous intravenous infusion without any side-effects. As systemic biomarker for therapeutic efficacy of the SUL-138, the reduction in plasma ROS levels was used.

Translated into clinical practice, the main benefits of SUL-138 for AKI prevention are:

- Improve survival rate of major surgery
- Reduce days spent in ICU & days spent in hospital
- Prevention of the need for renal replacement therapies (e.g. dialysis)

Opportunity

Sulfateq B.V. offers a high profit investment opportunity regarding a revolutionary platform technology for blockbuster drug development with the goal to out-license blockbuster compound(s) within 5-8 years and at least 10-fold Return On Investment.

Short-term goal (within 1 year):
Successful transition from pre-clinical phase to phase I within 1 year.

Mid-term goal (1–2 years):
Successful transition from Phase I to Phase II after 1-2 years.

Long-term goal (2-4 years):
Out-license compounds after successful closure after 2-4 years of Phase II to large pharmaceutical companies.

Investing in SUL-138

We offer a great opportunity for investing in a breakthrough solution for the prevention of Acute Kidney Injury. If you share the same enthusiasm for the possibilities of hibernation in healthcare and its huge potential, please contact Kees van der Graaf for more information about investment possibilities. We are looking forward doing business with you!

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