

PRESS RELEASE

Antec Scientific contributes to the development of novel antimalarial drug Cipargamin (KAE609) at Novartis

Leiden, NL (8. April 2018) – Antec Scientific recognizes Novartis¹ for the outstanding advances in the characterization of key metabolites of anti-malarial drug KAE609, currently in phase II clinical trials. Using Antec's ROXY Electrochemical (EC) System, equipped with the SynthesisCell, Novartis research scientists for the first time, successfully synthesized M16, a key secondary metabolite, in sufficient quantities to allow full structural characterization, previously unable to be synthesized sufficiently using traditional enzymatic techniques. Electrochemistry is a quick and simple tool to generate human metabolites and is especially important for drug compounds that are marginally soluble in water and result in difficulties in collecting important metabolites from aqueous enzymatic reactions. Antec's ROXY System provides state-of-the-art advances to facile, rapid electrochemical synthesis of metabolites; successfully mimicking in-vivo processes otherwise difficult to re-create in the laboratory.

When introduced almost a decade ago, the ROXY EC System transformed laboratory science by delivering the ability to synthesize multi-scale amounts of chemical compounds utilizing redox electrochemical reactions. From holistic top-down and bottom-up proteomics, facile and powerful solutions for metabolomics and difficult syntheses, ROXY EC Systems are helping scientists meet their research objectives.

The World Health Organization has set a target of reducing malaria-related mortality and incident rates by at least 90% by 2030³. There are real challenges in achieving this goal with the current class of anti-malarial drugs based on artemisinin and related derivatives due to artemisinin-resistant Malaria strains emerging world-wide. As a result, there is a need to develop novel classes of anti-malarial drugs while trying to preserve the efficacy of artemisinin for future generations.

Current research and development by drug manufacturers has focused on alternative therapeutic pathways which treat the disease different from the current drug offerings in the marketplace. Novartis has pledged to invest over \$100M in their anti-malarial drug pipeline (NITD609, KAE609) as part of a renewed commitment in conjunction with the Multilateral Initiative on Malaria Conference and the Malaria Summit of the Commonwealth Heads of Government¹.

Antec Scientific develops and manufactures advanced analytical products and technologies for the Life Sciences Industry. As an industry leader for over 25 years, Antec Scientific has pioneered a connected product portfolio focused exclusively on Electrochemical Detectors (ECD), Liquid Chromatography Analyzers and Electrochemistry for use with Mass Spectrometry (EC/MS) and electrochemical synthesis.

- Ref 1. <https://www.novartis.com/news/media-releases/novartis-renews-commitment-malaria-elimination-investing-usd-100-million-research-and-develop-next-generation-antimalarials>
- Ref 2. "Evaluation of the Absorption, Distribution, Metabolism and Excretion of a single oral 300 mg dose of [14C]KAE609 in healthy male subjects" Su-Er W. Huskey et al; *Drug Metabolism and Disposition* May 2016, 44 (5) 672-682
- Ref 3. http://www.who.int/malaria/areas/global_targets/en/