Press Release
18 December 2019

Lysogene announces the publication of an article in the scientific journal "Molecular Therapy Methods & Clinical Development" demonstrating the potential of its drug candidate LYS-SAF302

PARIS – December 18, 2019 at 06:00pm – Lysogene (FR0013233475 – LYS), a pioneering Phase 3 biopharmaceutical company specializing in gene therapy targeting central nervous system (CNS) diseases, today announced the publication of a scientific article describing preclinical work performed with LYS-SAF302, a drug candidate currently in a phase II/III clinical trial (NCT03612869) for the treatment of Mucopolysaccharidosis Type IIIA (MPS IIIA) disease.

"In this paper, we show that LYS-SAF302 was able to correct disease pathology in the mouse model of the disease and to achieve strong and extensive transgene expression and distribution throughout the brain of dogs and nonhuman primates following intraparenchymal administration. Extrapolating the results of the dog and monkey studies to the human brain, it appears that the current clinical dose and volume should be able to restore at least 20% of normal SGSH activity throughout the brain of a MPS IIIA patient, which is predicted to have a significant positive impact on disease progression," said **Ralph Laufer, Chief Scientific Officer at Lysogene**.

The article, entitled **"AAVrh10 vector corrects disease pathology in MPS IIIA mice and achieves widespread distribution of sulfamidase in the brain of large animals"** and published in the scientific journal Molecular Therapy Methods & Clinical Development (https://www.cell.com/molecular-therapy-family/methods/fulltext/S2329-0501(19)30146-9), presents long-term effects of LYS-SAF302 on lysosomal pathology in MPS IIIA mice as well as SGSH expression and distribution in the brain of 2 large animal species, dogs and cynomolgus monkeys. LYS-SAF302 was administered to 5-week-old MPS IIIA mice at three different doses (8.6E+08, 4.1E+10, and 9.0E+10 vg/animal) injected into the caudate putamen/striatum and thalamus. LYS-SAF302 was able to dose-dependently correct or significantly reduce HS storage, secondary accumulation of GM2 and GM3 gangliosides, ubiquitin-reactive axonal spheroid lesions, lysosomal expansion and neuroinflammation, at 12-weeks and 25-weeks post-dosing. To study SGSH distribution in the brain of large animals, LYS-SAF302 was injected into the subcortical white matter of dogs (1.0 or 2.0E+12 vg/animal) and cynomolgus monkeys (7.2E+11 vg/animal). Increases of SGSH enzyme activity of at least 20% above endogenous levels were detected in 78% (dogs 4 weeks after injection) and 97% (monkeys 6 weeks after injection) of the total brain volume. Taken together, these data validate intraparenchymal AAV administration as a promising method to achieve widespread enzyme distribution and correction of disease pathology in MPS IIIA.

About Lysogene

Lysogene is a gene therapy company focused on the treatment of orphan diseases of the central nervous system (CNS). The company has built a unique capability to enable a safe and effective delivery of gene therapies to the CNS to treat lysosomal diseases and other genetic disorders of the CNS. A pivotal clinical trial in MPS IIIA in partnership with Sarepta Therapeutics, Inc. is ongoing and a phase 1-2 clinical trial in GM1 Gangliosidosis is in preparation. In accordance with the agreements signed between Lysogene and Sarepta Therapeutics, Inc., Sarepta Therapeutics, Inc. will hold exclusive commercial rights to LYS-SAF302 in the United States and markets outside Europe; and Lysogene will maintain commercial exclusivity of LYS-SAF302 in Europe. Lysogene is also collaborating with an academic partner to define the strategy of development for the treatment of Fragile X syndrome, a genetic disease related to autism. www.lysogene.com.

Forward Looking Statement

This press release may contain certain forward-looking statements, especially on the Company's progress of its phase 2-3 clinical trial and cash runway. Although the Company believes its expectations are based on reasonable assumptions, all statements other than statements of historical fact included in this press release about future events are subject to (i) change without notice, (ii) factors beyond the Company's control, (iii) clinical trial results, (iv) increased manufacturing costs and (v) potential claims on its products. These statements may include, without limitation, any statements preceded by, followed by or including words such as "target," "believe," "expect," "aim," "intend," "may," "anticipate," "estimate," "plan," "objective", "project," "will," "can have," "likely," "should," "would," "could" and other words and terms of similar meaning or the negative thereof. Forward-looking statements are subject to inherent risks and uncertainties beyond the Company's control that could cause the Company's actual results, performance or achievements to be materially different from the expected results, performance or achievements expressed or implied by such forward-looking statements. A further list and description of these risks, uncertainties and other risks can be found in the Company's regulatory filings with the French Autorité des Marchés Financiers, including in the 2018 registration document (Document de référence), registered with the French Markets Authorities on April 29, 2019, under number R. 19-016, and future filings and reports by the Company. Furthermore, these forward-looking statements are only as of the date of this press release. Readers are cautioned not to place undue reliance on these forward-looking statements. Except as required by law, the Company assumes no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future. If the Company updates one or more forward-looking statements, no inference should be drawn that it will or will not make additional updates with respect to those or other forward-looking statements.

This press release has been prepared in both French and English. In the event of any differences between the two texts, the French language version shall supersede.

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