Detalimogene Demonstrates Improved Complete Response Rate of 62% at 6 Months

Low rates of treatment-related adverse events (42%) and dose interruptions (1.6%)

Emerging detalimogene profile supports potential first line use in patients with high-risk, BCG-unresponsive non-muscle invasive bladder cancer with CIS

LEGEND trial pivotal cohort completed enrollment with 125 patients, exceeding target

enGene to host conference call and webcast at 8:00 a.m. ET

BOSTON & MONTREAL - enGene Holdings Inc. (Nasdaq: ENGN or "enGene" or the "Company"), a clinical-stage, non-viral genetic medicines company, today reported additional preliminary data from the pivotal cohort of its ongoing, Phase 2 LEGEND trial of detalimogene voraplasmid (also known as detalimogene and previously EG-70) in high-risk, Bacillus Calmette-Guérin (BCG)-unresponsive non-muscle invasive bladder cancer (NMIBC) patients with carcinoma in situ (CIS) with or without concomitant papillary disease. Detalimogene's preliminary data to date and differentiated profile continue to support the Company's planned Biologics License Application (BLA) submission in the second half of 2026.

The preliminary analysis included 62 patients at 3 months and 37 patients at 6 months. All patients included in this analysis were evaluated under LEGEND's amended protocol, which went into effect in the fourth quarter of 2024, and was designed to more closely align the LEGEND trial with the American Urological Association's Guidelines and standard of care.

Data from 62 patients enrolled under the amended protocol with at least one post-baseline disease assessment demonstrated:

- 63% complete response (CR) rate at any time (n=62);
- 56% CR rate at 3 months (n=62);
- 62% CR rate at 6 months (n=37), with 4 patients having successfully converted to CR post reinduction; and
- All 5 patients who completed the 9-month assessment had a CR.

The Company completed enrollment of 125 patients in the pivotal cohort, exceeding its target by 25%. Data from these patients demonstrated a favorable tolerability profile:

- 42% of patients experienced a treatment-related adverse event (TRAE);
- 1.6% of patients experienced dose interruptions due to TRAEs; and
- 0.8% of patients experienced dose discontinuations due to TRAEs.

"We are pleased to report an improved 6-month CR rate for patients being treated with detalimogene under our amended protocol," said Hussein Sweiti, M.D., MSc, Chief Medical Officer. "With a competitive preliminary efficacy profile and potential for best-in-class tolerability and ease of use, we believe detalimogene could emerge as the first-line therapy for patients with high-risk, BCG-unresponsive NMIBC."

"Careful selection of an appropriate bladder-sparing therapy is of utmost importance in creating a long-term strategy to maintain a patient's disease control and quality of life, while minimizing the logistical burden on patient and practice," remarked Suzanne Merrill, M.D., Senior Physician, Urologic Oncologist and Bladder Cancer Regional Lead, at Colorado Urology. "I am pleased to see the positive trajectory of detalimogene's efficacy and tolerability data. Combined with its ease of use, detalimogene would be an attractive option to both patient and a busy urology practice."

In September 2024, enGene reported preliminary data from 21 patients in the pivotal cohort of LEGEND who were

enrolled prior to implementing a protocol amendment in the fourth quarter of 2024. An additional 10 patients were enrolled under the prior protocol for a total of 31 patients. The table below provides summary efficacy from the two separate patient subpopulations.

ITT Population*		**Any Time (N=62)**	**3 Month (N=62)**	**6 Month** (N=37)**
Post-Protocol Amendment	CR Rate	63% (CI: 51-74)	56% (CI: 44-68)	62% (CI: 46-76)
		Any Time (N=31)	**3 Month (N=31)**	**6 Month (N=27)**
Pre-Protocol Amendment	CR Rate	55% (CI: 38-71)	55% (CI: 38-71)	41% (CI: 25-59)

Data as of October 24, 2025.

*ITT: Intent-To-Treat population includes all post/pre-protocol amendment patients, respectively, who received at least 1 dose of treatment and had at least 1 post-baseline disease assessment.

**CR rates at 6 months include only patients who were evaluable at the 6-month timepoint or had disease progression prior to the 6-month assessment.

CI: 95% Confidence Interval.

Preliminary efficacy data for patients enrolled prior to implementing the protocol amendment demonstrated a markedly lower 12-month CR rate than those of U.S. Food and Drug Administration (FDA)-approved products for BCG-unresponsive NMIBC. The Company is encouraged by the strong improvement demonstrated in the preliminary 6-month CR rate of patients enrolled under the amended protocol.

Additional LEGEND trial updates

- Following recent discussions with the FDA, the primary endpoint for LEGEND's pivotal cohort will change to CR rate at any time from a primary endpoint of landmark 12-month CR rate, with its key secondary endpoint becoming duration of response (DOR) for patients in CR. This updated primary endpoint is consistent with other recent programs registered with FDA.
- The Company plans to engage with FDA on a statistical analysis plan (SAP) to determine which patients will be included in the final efficacy evaluable population.
- Cohort 2a, evaluating detalimogene in NMIBC patients with CIS who are naïve to treatment with BCG, has enrolled 30 patients.
- Cohort 2b, evaluating detalimogene in high-risk NMIBC patients with CIS who have been exposed to BCG but have not received adequate BCG treatment, has enrolled 45 patients.
- Cohort 3, evaluating detalimogene in BCG-unresponsive high-risk NMIBC patients with papillary-only disease, has enrolled 36 patients.

"We are highly encouraged with the preliminary data from our LEGEND study, which support our planned BLA filing," said Ron Cooper, President and CEO. "Based on the emerging clinical profile and detalimogene's differentiated ease of use, we continue to believe there is a substantial commercial opportunity for detalimogene if approved."

Anticipated upcoming milestones

- Following agreement with the FDA on the SAP and the accumulation of sufficient 12-month CR data points, enGene expects to provide a data update on the LEGEND trial's pivotal cohort in the second half of 2026.
- The Company continues to expect to file the BLA in the second half of 2026, with a potential FDA approval in 2027.

Safety Information

Detalimogene's overall tolerability profile was favorable. Of the 125 patients assessed for safety in Cohort 1 as of October 24, 2025, 53 patients (42%) experienced at least one TRAE, which were mainly Grade 1/2 in severity, except

for 3 patients with Grade 3 TRAEs. The most common TRAEs were Bladder Spasm (10.4%), Dysuria (12.0%), Fatigue (16.8%), Micturition Urgency (10.4%), and Pollakiuria (10.4%). There were no Grade 4 or Grade 5 TRAEs reported. Among the 3 patients with Grade 3 TRAEs, there were no drug discontinuations related to the severe adverse events.

Conference Call

enGene will host a conference call and live webcast at 8:00 a.m. ET today, November 11, 2025. A link to the live webcast of the call is available here and is also accessible on the Events and Presentations page of the Company's Investor website along with an accompanying slide deck: https://engene.com/presentations/. The live call can be accessed by registering as a participant here. Upon registration, participants will receive conference dial-in information. A replay of the webcast will be available on the Company's website for one year.

About Non-Muscle Invasive Bladder Cancer (NMIBC)

Non-muscle invasive bladder cancer (NMIBC) is a disease that poses a significant burden on both patients and clinics and has a massive economic impact on the healthcare system. NMIBC occurs when cancer cells grow in the tissues that line the interior of the bladder, but the cancer has not yet penetrated the muscle of the bladder wall. NMIBC can present as papillary outgrowths from the bladder wall, which are typically resected, or as carcinoma in situ (CIS), which consists of flat, multifocal lesions that cannot be resected. The two forms can also co-occur. About 75%-80% of new bladder cancer diagnoses are NMIBC. Patients suffering from high-risk NMIBC who are unresponsive to the standard of care, Bacillus Calmette-Guérin (BCG), face high rates of disease recurrence (50%-70%) and are potentially subject to full removal of the bladder (cystectomy) as a curative but life-altering next step.

About Detalimogene Voraplasmid

Detalimogene is a novel, investigational, non-viral gene therapy for patients with high-risk, non-muscle invasive bladder cancer (NMIBC), including Bacillus Calmette-Guérin (BCG)-unresponsive disease. It is designed to be instilled in the bladder and elicit a powerful yet localized anti-tumor immune response.

Detalimogene was developed using the Company's Dually Derivatized Oligochitosan® (DDX) platform, a technology designed to transform how gene therapies are accessed by patients and utilized by clinicians. Medicines developed with the DDX platform can potentially overcome the limitations of viral-based gene therapies, reduce complexities related to safe handling and cold storage, and streamline both manufacturing processes and administration paradigms.

Detalimogene has received Regenerative Medicine Advanced Therapy (RMAT) and Fast Track designations from the U.S. Food and Drug Administration (FDA) based on its potential to address the high unmet medical need for patients with BCG-unresponsive, carcinoma in situ (CIS) NMIBC with or without resected papillary tumors who are unable to undergo cystectomy. The RMAT program is intended to expedite the development and review of regenerative medicine therapies for serious or life-threatening conditions, where preliminary clinical evidence suggests the potential to address unmet medical needs. Similarly, Fast Track designation is a process designed to facilitate the development and expedite the review of drugs to treat serious conditions and fill an unmet medical need.

About the LEGEND Trial

Detalimogene is being evaluated in the ongoing, open-label, multi-cohort, Phase 2 LEGEND trial to establish its safety and efficacy in high-risk NMIBC. LEGEND's pivotal cohort (Cohort 1) consists of 125 patients with high-risk, BCG-unresponsive NMIBC with CIS (with or without papillary disease) and is designed to serve as the basis of the Company's planned Biologics License Application (BLA) filing. In addition to this pivotal cohort, LEGEND includes three additional cohorts, including NMIBC patients with CIS who are naïve to treatment with BCG (Cohort 2a); NMIBC patients with CIS who have been exposed to BCG but have not received adequate BCG treatment (Cohort 2b); and BCG-unresponsive high-risk NMIBC patients with papillary-only disease (Cohort 3). The LEGEND trial is actively

enrolling patients with sites participating in the USA, Canada, Europe, and the Asia-Pacific region.

About enGene

enGene is a clinical-stage biotechnology company mainstreaming genetic medicines through the delivery of therapeutics to mucosal tissues and other organs, with the goal of creating new ways to address diseases with high clinical needs. enGene's lead program is detalimogene voraplasmid (also known as detalimogene, and previously EG-70) for patients with Non-Muscle Invasive Bladder Cancer (NMIBC), a disease with a high clinical burden. Detalimogene is being evaluated in the ongoing multi-cohort LEGEND Phase 2 trial, which includes a pivotal cohort studying detalimogene in high-risk, Bacillus Calmette-Guérin (BCG)-unresponsive patients with carcinoma in situ (CIS) with or without concomitant papillary disease. Detalimogene was developed using enGene's proprietary Dually Derivatized Oligochitosan (DDX) platform, which enables penetration of mucosal tissues and delivery of a wide range of sizes and types of cargo, including DNA and various forms of RNA.

To learn more, please visit enGene.com and follow us on LinkedIn, X and BlueSky.

Forward-Looking Statements

Certain statements contained in this press release may constitute "forward-looking statements" within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, and "forward-looking information" within the meaning of Canadian securities laws (collectively, "forward-looking statements"). enGene's forward-looking statements include, but are not limited to, statements regarding enGene's management team's expectations, hopes, beliefs, intentions, goals, or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words "anticipate", "appear", "approximate", "believe", "continue", "could", "estimate", "expect", "foresee", "goal", "intends", "may", "might", "plan", "possible", "potential", "predict", "project", "seek", "should", "would", and similar expressions (or the negative version of such words or expressions) may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. Forward-looking statements may include, for example, statements about: the potential benefits of the amended protocol, including the potential for patients enrolled under the amended protocol to experience better long-term CR rates, detalimogene's potential safety and ease of use profile, the development of detalimogene, the potential benefits of detalimogene, including its ability to become a first line therapy in BCG-unresponsive NMIBC and its attractiveness to urologists, plans regarding regulatory interactions and potential BLA submission for detalimogene, plans regarding updates on the LEGEND study, including clinical data and engagement with the FDA, and the potential benefits of medicines developed with the DDX platform. Such statements are subject to numerous important factors, risks and uncertainties, many of which are beyond enGene's control, that may cause actual events or results to differ materially from enGene's current expectations. For example, there can be no guarantee that detalimogene will successfully complete necessary clinical development phases, including achieving positive results in the pivotal cohort of the LEGEND study, or that those results or any feedback from regulatory authorities will ultimately lead to BLA submission for, and the approval of, detalimogene.

Management's expectations and, therefore, any forward-looking statements in this press release could also be affected by risks, uncertainties and assumptions relating to a number of other factors, which could cause the Company's actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statements, including, without limitation, the inability of preliminary clinical data to predict the final results of the trial, changes in the results from enGene's clinical trials, including due to new data collected from the ongoing LEGEND study or future studies, subsequent analysis of existing data, and audit and verification procedures; the content and timing of decisions made by the FDA and other regulatory authorities; the Company's ability to recruit and retain qualified scientific and management personnel, establish clinical trial sites and enroll patients in its clinical trials, execute on the Company's clinical development plans; and ability to secure regulatory approval on anticipated timelines, and

other risks and uncertainties detailed in filings with Canadian securities regulators on SEDAR+ and with the U.S. Securities and Exchange Commission ("SEC") on EDGAR, including those described in the "Risk Factors" section of the Company's Annual Report on Form 10-K for the fiscal year ended October 31, 2024 (copies of which may be obtained at www.sedarplus.ca or www.sec.gov).

You should not place undue reliance on any forward-looking statements, which speak only as of the date on which they are made. enGene anticipates that subsequent events and developments will cause enGene's assessments to change. While enGene may elect to update these forward-looking statements at some point in the future, enGene specifically disclaims any obligation to do so, unless required by applicable law. Nothing in this press release should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that any of the contemplated results of such forward-looking statements will be achieved.

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