



Update Regarding Initiation of Patent Litigation Against Moderna

February 28, 2022



Forward-Looking Statements

This presentation includes forward-looking statements that are subject to substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Our forward-looking statements include, but are not limited to, statements regarding our or our management team's expectations, hopes, beliefs, intentions or strategies regarding the future, and statements that are not historical facts, including statements about the clinical and therapeutic potential of our product candidates, the availability and success of topline results from our ongoing clinical trials, any commercial potential of our product candidates, and any pending litigation, including but not limited to our expectations regarding the outcome of any such litigation and costs and expenses associated with such litigation. 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.

Although we believe that our plans, intentions, expectations and strategies as reflected in or suggested by those forward-looking statements are reasonable, we can give no assurance that the plans, intentions, expectations or strategies will be attained or achieved. Furthermore, actual results may differ materially from those described in the forward-looking statements and will be affected by a number of risks, uncertainties and assumptions, including, but not limited to, those risks set forth in the sections captioned “Risk Factors” and “Forward-Looking Statements” of our filings with the US Securities and Exchange Commission, available at www.sec.gov and investor.roivant.com. We operate in a very competitive and rapidly changing environment in which new risks emerge from time to time. These forward-looking statements are based upon the current expectations and beliefs of our management as of the date of this presentation, and are subject to certain risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Except as required by applicable law, we assume no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

This presentation is being provided pursuant to Roivant’s disclosure obligations under applicable federal securities laws.

Speakers



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Genevant and Arbutus have Jointly Filed a Complaint against Moderna Asserting Patent Infringement

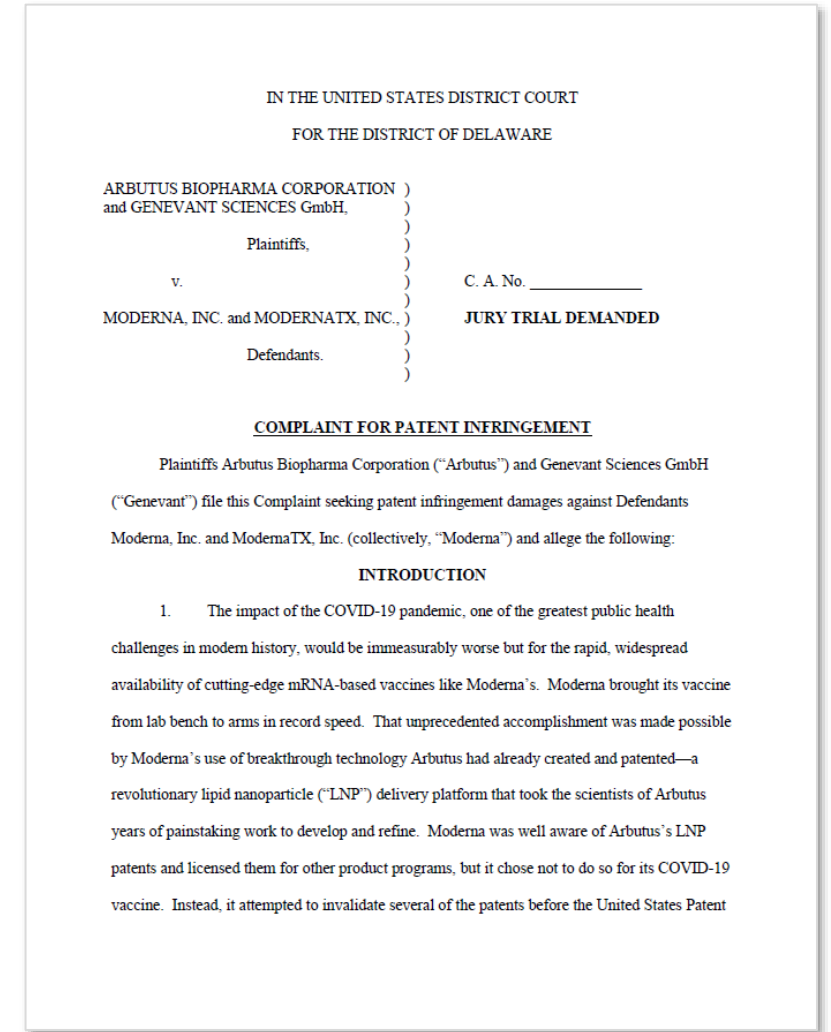
Today, Genevant and Arbutus jointly filed a complaint against Moderna in the US District Court for the District of Delaware asserting infringement of six patents

Genevant and Arbutus do not seek an injunction or otherwise to impede the sale, manufacture, or distribution of Moderna’s COVID-19 vaccine

We recognize the important work of Moderna that helped lead to a lifesaving vaccine in record time

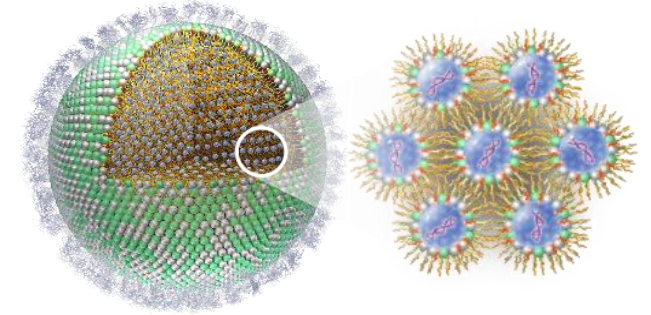
That success was built on, and made possible by, the substantial advances and contributions of Arbutus and Genevant scientists

Genevant has out-licensed its LNP technology on multiple occasions; the filing of this lawsuit was necessary because Moderna has not meaningfully engaged in licensing discussions













Genevant is a Leading Nucleic Acid Delivery Solutions Company

- Genevant was formed in 2018 by Roivant and Arbutus and licensed Arbutus's LNP technology and patent portfolio
- Deep expertise in delivery systems for mRNA and other nucleic acids
- Without adequate protection, nucleic acids degrade quickly in the body before accessing their target cells – long known to be a significant obstacle to accessing their therapeutic potential
- Many years ago, a team of research scientists at an Arbutus predecessor company
 - Years of effort led to the innovative solution — tiny particles made of four carefully selected lipid types, now commonly known as **lipid nanoparticles** or **LNP**
 - Genevant's technology became the first LNP to be included in an FDA-approved RNA product in 2018, Alnylam's Onpattro® developed under LNP license from Arbutus
- Today, LNPs have emerged as the primary means for delivering the industry's mRNA pipeline, as well as a key delivery approach for gene editing
- Core members of the team behind the early LNPs now lead Genevant's R&D efforts, collaborating with leading companies to develop innovative nucleic acid medicines



Genevant Collaborates with Leading Companies for Access to its LNP Technology to Develop Medicines for a Variety of Diseases and Disorders, Including COVID-19

Collaboration Partner	LNP Collaborations Outside of COVID-19	Publicly Disclosed Financials*
	Gene editing therapeutics for specified neuromuscular diseases, including DMD ¹	Royalty rate: mid-single to low-double digits [†] Near-term: \$50M + significant milestones
	Nucleic acid therapeutics directed to specified targets in HSCs to treat liver fibrosis ²	Royalty rate: undisclosed Upfront and milestones: \$600M
	Nonviral gene therapies for up to two rare liver diseases ³	Royalty rate: undisclosed Upfront and milestones: \$303M
	Gene editing therapies for hemophilia A ⁴	Royalty rate: mid-single digits [†] Upfront and near-term option: \$10M + milestones
	Self-amplifying RNA for an unspecified indication ⁵	Low to mid-single digits [†] Initial payment and milestones: \$73M
	mRNA for a specified number of oncology targets; co-dev in up to five rare diseases ⁶	Milestones and royalties (amounts undisclosed); 50:50 on co-development programs
Collaboration Partner	LNP Collaborations for COVID-19	Publicly Disclosed Financials*
	Self-amplifying RNA COVID-19 vaccine program ⁷	Royalty rate: mid-single to mid-double digits [†] Upfront + milestones: \$192M/product
	mRNA COVID-19 vaccine program in specified Asian countries ⁸	Royalty rate: 8% Upfront + milestones: \$133.75M
	mRNA COVID-19 vaccine program	Undisclosed
	mRNA COVID-19 vaccine program in specified Asian countries	Undisclosed

Genevant Has an Expansive LNP IP Portfolio

- Genevant owns or licenses approximately 700 LNP-related patents and pending patent applications, including the following US patents which are licensed from Arbutus and were asserted in today's complaint:

Subject Matter	US Patent No.	Expiration Date
Particle Composition	8,058,069	April 2029
	8,492,359	April 2029
	8,822,668	April 2029
	9,364,435	April 2029
	11,141,378	April 2029
mRNA-LNP Compositions	9,504,651	July 2023

- The particle composition patents listed above are directed to compositions comprising various lipid types, including cationic lipids, phospholipids, cholesterol and conjugated lipids
 - Phospholipids and cholesterol are types of amphipathic lipids and/or non-cationic lipids; PEG-lipids are a type of conjugated lipid
 - In addition to the US, particle composition patents have also issued in the EU, Japan, Australia, Canada, China, Israel, and New Zealand, with the EU patent validated in certain major European countries
- Claim 1 of the '651 patent is directed to a lipid vesicle formulation comprising (1) lipid vesicles comprising a cationic, an amphipathic and a PEG lipid and (2) mRNA at least 70% of which is fully encapsulated in the lipid vesicles
- The patents refer to lipid vesicles or nucleic acid lipid particles, which we'll refer to as LNPs for the purpose of this presentation

Existing Disclosures Regarding Moderna's COVID-19 Vaccine Indicate Infringement of the Particle Composition Patents

- 1 A 2020 preprint describing mRNA-1273 development and preclinical data disclosed molar ratios of 50:10:38.5:1.5¹
- 2 A 2020 study published in *NEJM* described the mRNA as encapsulated in an LNP “as described previously” and cited a prior Moderna publication that discloses the same molar ratio as #1²
- 3 An international patent application showed that the same 50:10:38.5:1.5 molar ratio was used in the Phase I trial of mRNA-1273³
- 4 Moderna has acknowledged that the “lipid carrier particle” used in its Phase I study is the same as the one that was “ultimately approved” for use in its product⁴

	Moderna Public Disclosures re mRNA-1273 ⁶	US Pat. No. 8,058,069	US Pat. No. 8,492,359	US Pat. No. 8,822,668	US Pat. No. 9,364,435	US Pat. No. 11,141,378
Cationic Lipid	50% SM-102 (contains a protonatable tertiary amine ⁵)	50 - 65%			50 - 85%	No quantitative limitation; must contain protonatable tertiary amine
Non-Cationic Lipid	PL: 10% Chol: 38.5%	PL: 4 - 10% Chol: 30 - 40%	PL: 3 - 15% Chol: 30 - 40%	Up to 49.5% (incl. Chol: 30 - 40%)	13 - 49.5% Claim 7: PL: 3 - 15% Claim 8: Chol: 30 - 40%	30 - 55% (incl. PL: 3 - 15%)
Conjugated Lipid	PEG-lipid: 1.5%	0.5 - 2%				PEG-lipid: 0.1 - 2%

Genevant and Arbutus also Assert that Moderna's Vaccine Infringes the '651 Patent

Claim 1 of US Patent No. 9,504,651, titled "Lipid Compositions for Nucleic Acid Delivery," is directed to a lipid vesicle formulation comprising:

Moderna's COVID-19 vaccine

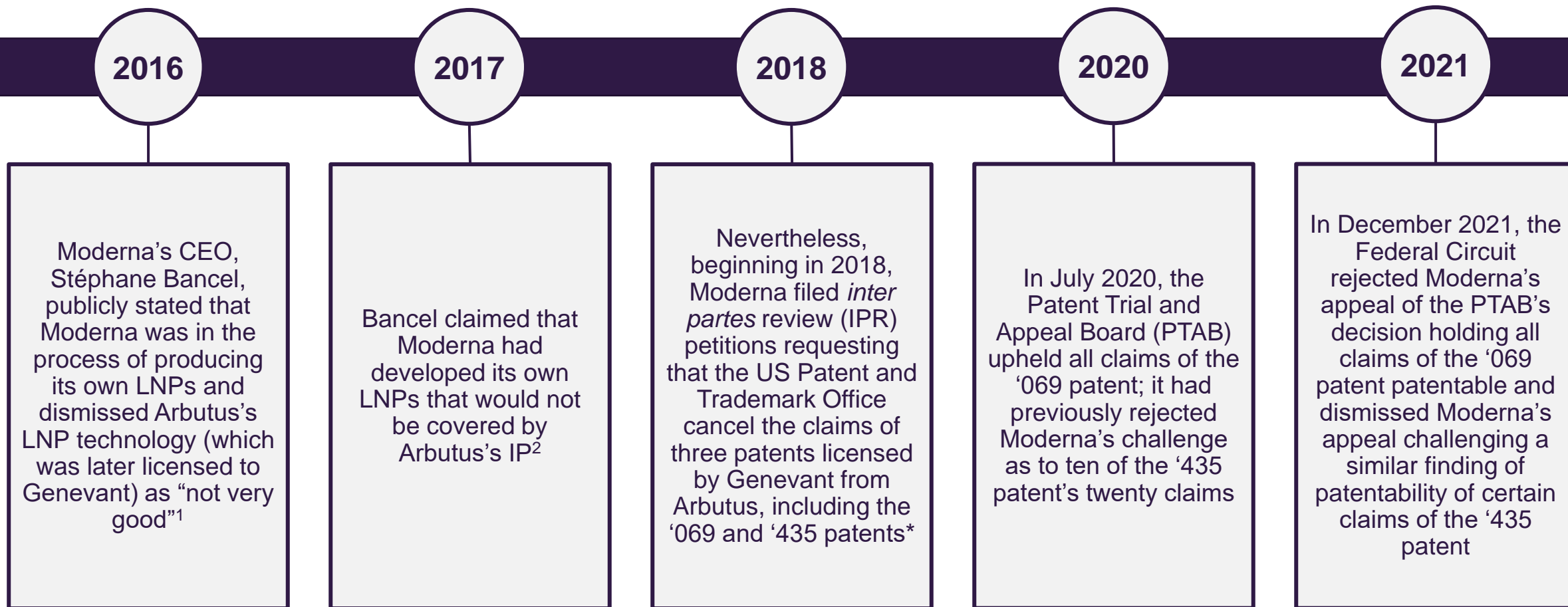
(1) a plurality of lipid vesicles, wherein each lipid vesicle comprises: a cationic lipid; an amphipathic lipid and a PEG-lipid

The vaccine comprises a lipid vesicle comprising a cationic lipid (SM-102), an amphipathic lipid (DSPC) and a PEG-lipid (PEG2000-DMG)¹

(2) mRNA, at least 70% of which is fully encapsulated in the lipid vesicles

We believe the vaccine comprises a lipid vesicle formulation wherein at least 70% of the mRNA in the formulation is fully encapsulated in the lipid vesicles

Despite Denying Infringement, Moderna Has Unsuccessfully Attempted to Invalidate the '069 and '435 Patents



*Moderna also attempted to invalidate US Patent No. 9,404,127 via IPR; a Genevant/Arbutus appeal of the PTAB's decision in Moderna's favor remains ongoing; infringement of the '127 patent was not asserted in the complaint filed today

Next Steps

- 1** We expect that Moderna will respond to the complaint within the next several months
- 2** Pending Moderna's response, the court will set a schedule for further proceedings in the case
- 3** We expect that litigation with Moderna could take at least 2 years, but there are many factors that could affect that timeline

ROIIVANT

SCIENCES

