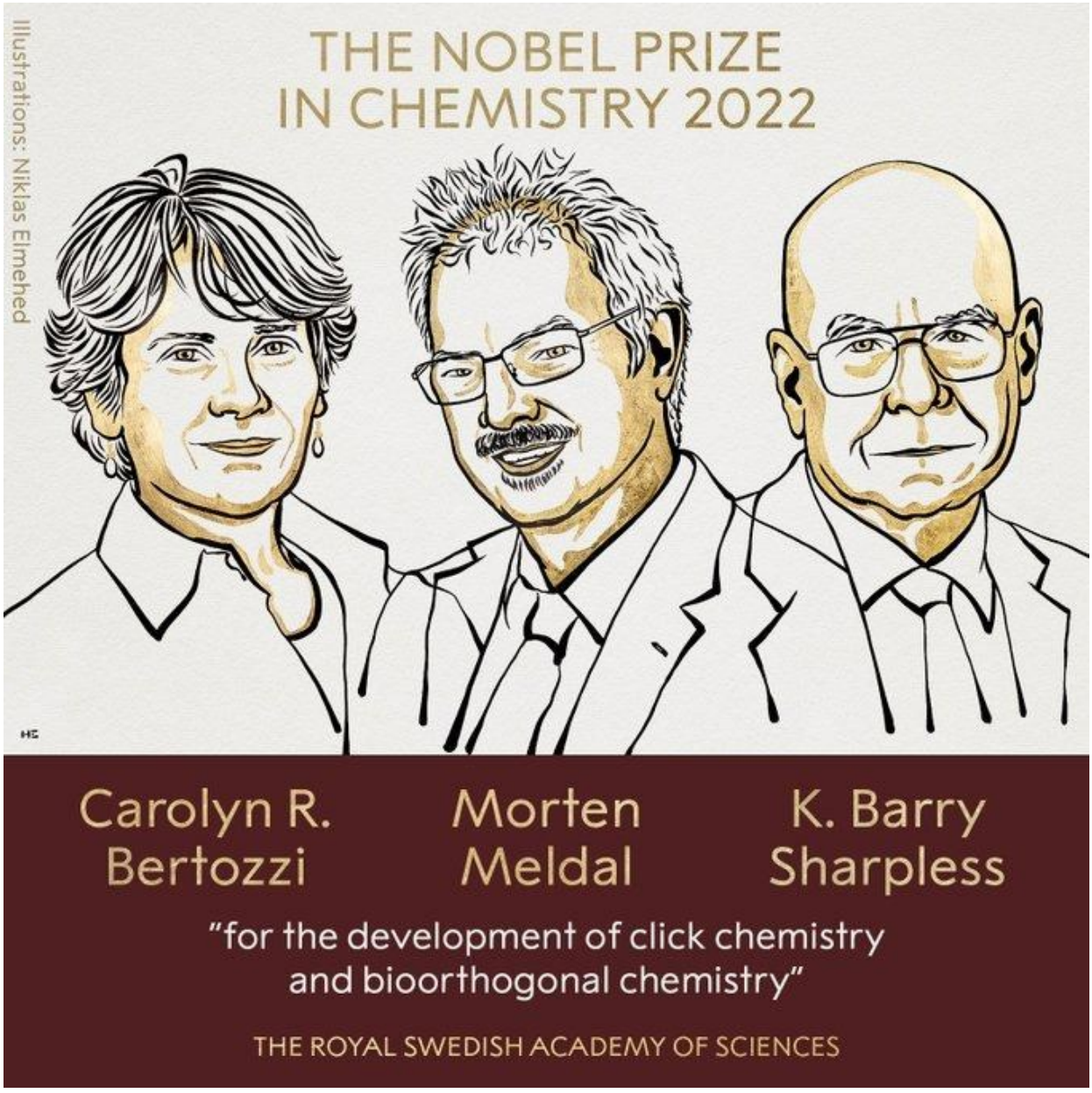
Bioxytran (OTCMKTS: BIXT) The Two Nobel Prize Investment



Just two years ago, the Nobel prize in Chemistry was awarded for gene-editing technology called CRISPR/Cas9, which allowed precise gene editing of organisms using a biological scissor to cut out unwanted genes and insert the desired gene. CRISPR-focused companies including CRISPR Therapeutics, Intellia Therapeutics (NTLA), Editas Medicine (EDIT), and Beam Therapeutics (BEAM) jumped on the news with strong volume. CRISPR Therapeutics in particular was co-founded by one of the Nobel winners, Emmanuelle Charpentier. Over the ensuing months following this news, each of these four stocks, already worth hundreds of millions or billions, more than doubled, with NTLA and BEAM quadrupling. It appears that having Nobel prize technology means hundreds of millions or billions in market capitalization.

This is a pattern investors can follow for both strong short-term gains as well as for investing in solid long-term companies that can have a great impact on human health as their expert-awarded scientific discoveries make their way into the business world.

The difficulty is identifying stocks related to the Nobel prize. For instance, in 2021, the Chemistry prize was given to Benjamin List and David MacMillan for their development of a precise new tool for molecular construction: organocatalysis, which can enhance pharmaceutical research and make manufacturing cleaner. However, there were seemingly no stocks this directly impacted, certainly not ones whose businesses relied on these discoveries.

The 2022 Nobel Prize in Chemistry and Its Corresponding Stock

Just last month on October 5th, the Nobel prize was awarded to Carolyn R. Bertozzi, Morten Meldal, and K. Barry Sharpless for the development of click chemistry and bioorthogonal chemistry. In essence, this discovery allows the tracking of sugars through cells in the lab so that researchers can figure out the pathways of sugars (as opposed to just proteins) in biology. Sugars (glycoproteins and glycolipids) have been somewhat of an enigma until recent years despite these carbohydrates playing a very important role in biology. Stunning videos like this video of T-Cells killing cancer cells would not have been possible without the work of Nobel Laureate Bertozzi.

Despite finding no 2021 Chemistry Nobel prize stock, there appears to be a company that has anchored discoveries similar to the 2022 Chemistry Nobel prize. This relatively unknown biotechnology company is called Bioxytran, Inc (OTCMKTS: BIXT), which despite trading on the OTC is relatively well-capitalized and has a seasoned management team. The thing that makes BIXT so exciting is that this company is just a microcap with a market cap below $100 million. The company is relatively undiscovered and the float is very tight so a wave of new investors interested in capitalizing off two Nobel prize discoveries could move the stock a lot more than the well-known, multibillion-dollar CRISPR companies, as exciting as gene editing is. BIXT has two key assets that are in some ways more exciting than gene editing. The first is a glycobiology asset that impacts biological carbohydrate pathways, and the second is a unique oxygenation platform that has massive potential; indeed, the 2019 Nobel prize in Physiology was awarded for the discovery of how cells sense and adapt to oxygen availability. This makes two primary, promising assets that target Nobel prize science. When investors realize that the $60 million market cap BIXT has two technologies that are likely even more impactful than the billion-dollar CRISPR companies like Intellia, the stock could go parabolic.

Bioxytran, Nobel Prizes, and Cutting Edge Science

How does a small biotech company like BIXT have such impactful assets compared to these early-stage biotech companies which are Wall Street darlings? It comes down to such cutting-edge science that hasn't become well-known yet. Bioxtran's lead drug candidate is a galectin inhibitor called Prolectin-M and although it may bind galectins, it also primarily functions as a COVID-19 antiviral. Research has shown that viruses, including COVID-19, have a conserved, immutable "galectin fold", which is a section of one of their proteins that mimics the structure of a galectin. These galectin fold regions are critical to cell entry so blocking them with carbohy-

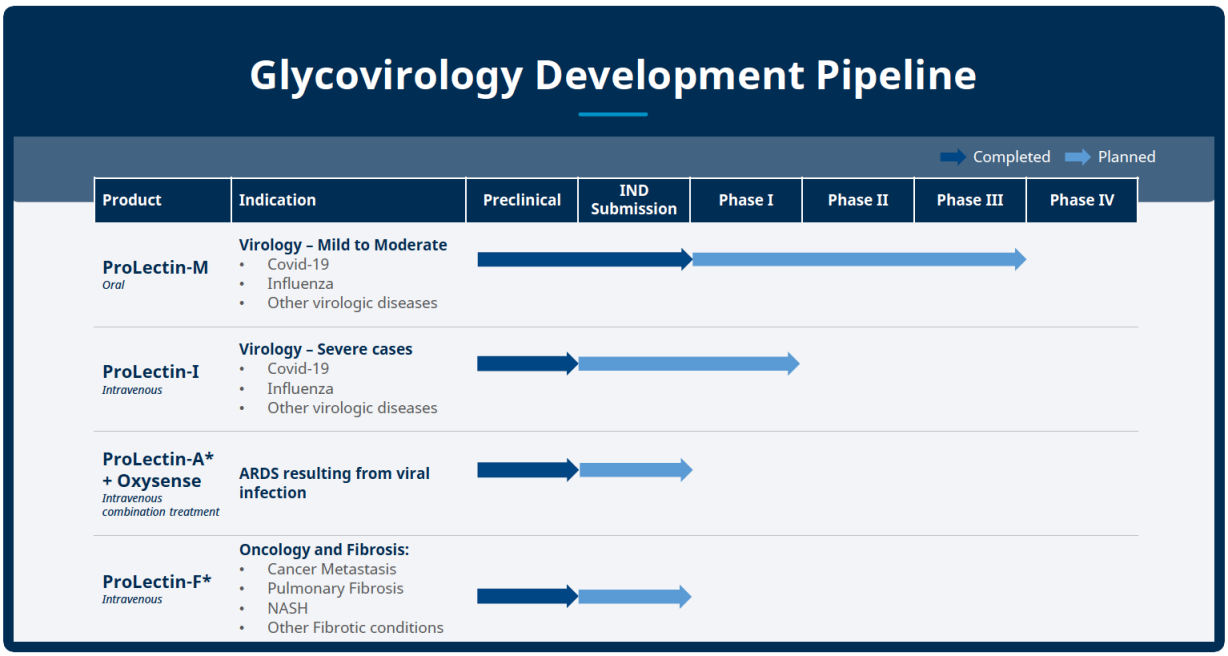
drate molecules interferes with their attachment to cells while rendering them neutralized, similarly to how neutralizing antibodies produced by the immune system can neutralize the virus, preventing it from infecting cells and then replicating. In early studies, Prolectin-M was able to eliminate the virus from COVID patients in a mere 3 days.

While the data is indeed early, Prolectin-M's preliminary data and safety profile suggest that it could be a more efficacious COVID therapeutic than Pfizer's (NYSE: PFE) Paxlovid, which is a 3CL protease inhibitor, when comparing both in clinical trials and real-world data. Paxlovid (nirmatrelvir/ritonavir) is the best available COVID antiviral which is used in the outpatient setting to help prevent people from becoming hospitalized, and the consensus is that its efficacy is greater than other top antivirals like Lagevrio (molnupiravir, an RdRp inhibitor sold by Merck (NYSE: MRK)) and Veklury (remdesivir, an RdRp inhibitor sold by Gilead Sciences (NASDAQ: GILD)). Investors expect Prolectin-M to soon enter a pivotal phase 2/3 trial.

Paxlovid was projected to do over $30 billion in sales before falling over time. Regardless, this kind of market size is so enormous to a $60 million company like BioXyTran that the falling revenue for Pfizer isn't a concern, it's only an opportunity to gain market share as COVID becomes endemic.

Beyond COVID: Influenza and More

COVID-19 isn't the only virus with a galectin fold that is able to be targeted by Bioxytran's proprietary glycovirology platform. Many other diseases such as monkeypox and influenza can be targeted by their carbohydrate drugs. In fact, Dr. Platt has used a new method to specifically design specialty complex carbohydrate drugs that can bind multiple, specific galectins (or corresponding galectin folds) via an innovative NMR (nuclear magnetic resonance) spectroscopy method. With further testing, single-molecule multitargeting different key galectins or even other glycoproteins has the potential to be more efficacious than one target alone. This approach also ensures better translation from drug discovery to efficacy in the lab and clinic.



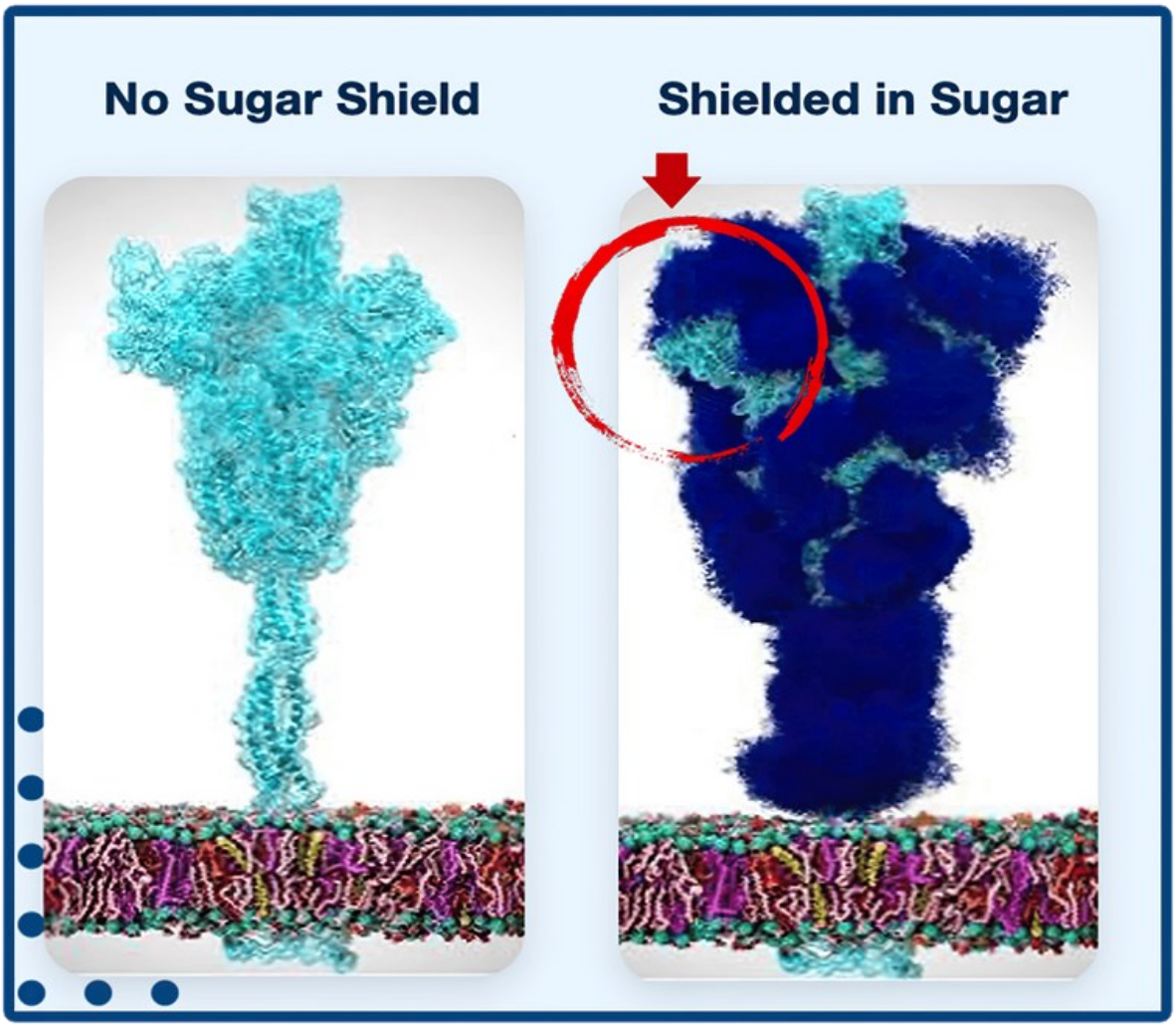
Bioxytrnan's ProLectin Pipeline

The Potential of Galectin Inhibitors

Galectin inhibitors are very promising assets in development for the potential to treat chronic inflammatory-fibrotic diseases that are widely prevalent in the general population as people age such as non-alcoholic steatohepatitis (NASH) cirrhosis, idiopathic pulmonary fibrosis (IPF), pulmonary arterial hypertension (PAH), kidney fibrosis, heart failure, and heart fibrosis, and potentially even neurological maladies such as Alzheimer's and stroke. The potential extends to cancer as well, especially metastatic cancer, where galectins such as galectin-3 play a potent, multifaceted role in cancer survival and progression by promoting cancer survival, immune dysfunction, immune system avoidance, cancer growth, and metastasis. Fibrotic diseases and cancer are two of the largest, most important unmet needs in today's healthcare field.

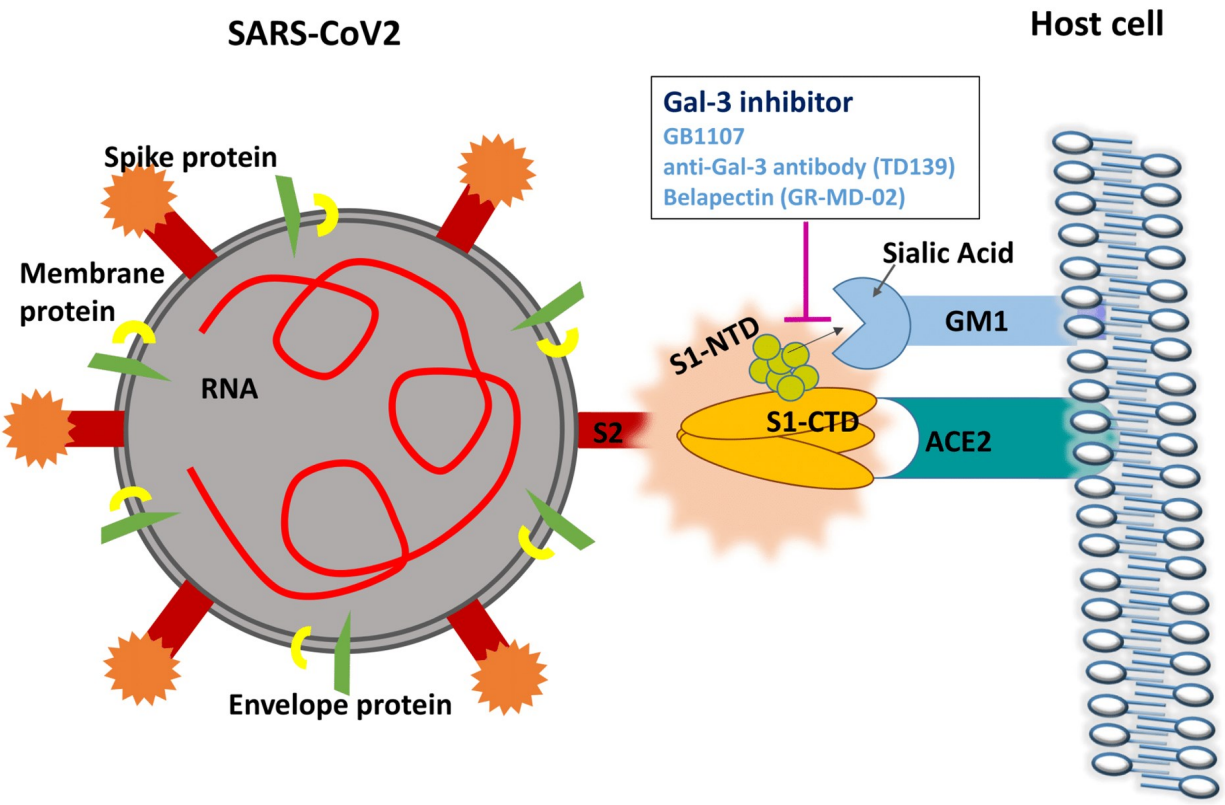
Galectin antagonist competitors such as Galecto Biosciences (NASDAQ: GLTO) and Galectin Therapeutics (NASDAQ: GALT) are focused on fibrotic conditions such as NASH, and cancer. But BioXyTran, while they can potentially address these conditions as well with their galectin antagonists, is initially targeting virological diseases to accelerate their lead asset's development before pursuing label expansion with other chronic diseases. This is an avenue only BioXyTran has the expertise to pursue due to the expertise of their CEO, Dr. David Platt, an expert carbohydrate chemist and former NASDAQ-listed company executive.

Glycovirology



Spike Protein With and Without Glycosylation, Unshielded Galectin Fold (Red)

Glycovirology is a new field spearheaded by BIXT. The simplified premise is that viruses use carbohydrate chemistry, not just proteins, as an integral part of their life cycle. In some cases, such as COVID-19, this involves using the spike protein which partially (on one section of it) resembles a galectin's carbohydrate recognition domain, to attach to and enter host cells, thereby infecting them. Prolectin-M is designed to bind to the galectin-like portion of COVID-19's spike protein. This action neutralizes the virus and could even sterilize those who take it, making them non-infectious, as well as promoting an immune response (IgG). This kind of therapeutic mechanism is possible for other viruses such as monkeypox and influenza.



Blocking SARS-CoV-2 (COVID-19) Viral Entry With Galectin-3 Antagonist

Early Research Foundational in 2022 Chemistry Nobel Prize

The lock-and-key binding of carbohydrates to carbohydrate-recognizing proteins such as galectins and the COVID-19 spike protein was discovered by Dr. Platt years ago, and his methods of manufacturing the correct specific carbohydrates remain a secret. But it is safe to say that without his original work in identifying galectins, the work conducted by the 2022 Chemistry Nobel laureates in the tracking of these carbohydrates throughout the cells in signaling pathways may not have been possible without Dr. Platt's original work.

Linkage of Cell Surface Glycans and Galectins

It's safe to say that cellular signaling is analogous to a lock and key. The surface glycans that Platt studied represent the locks for sending intracellular and extracellular signals, which Bertozzi and the others were able to mark and track.

The amazing thing about this recent Nobel prize with respect to Bioxytran is that Platt's work and expertise in carbohydrate chemistry, the characterization and lock-and-key mechanisms with galectins, laid the groundwork for Bertozzi's breakthroughs in characterizing glycobiological pathways. Before Platt's work in glycobiology, scientists knew carbohydrates had a biological function but that function was unclear. His discovery showed certain lectins binding with a specific carbohydrate (beta-galactoside), which he termed "galectin." So in essence, Platt discov-

ered the sugar receptors for the glycobiological pathways that the recent Nobel laureates discovered, as well as antagonists for these receptors.

For investors, David's expertise as a chemist with sugars' interactions with proteins has great utility to take advantage of these discoveries as useful drugs are made to block or enhance certain signaling pathways by understanding which carbohydrate structures will bind. This is often done through receptors. All the Nobel laureates' work does is increase the understanding and value of Bioxytran and other glycobiological companies.

In other words, BIXT would be the company of interest where they can translate this Nobel prize-worthy research into useful, valuable therapeutics.

In fact, Platt understands galectin and carbohydrate structural binding so well that he has designed, as mentioned above, a new technique to very specifically design drug candidates to target specific, multiple galectins, whereas in years past these galectins were thought to have very similar carbohydrate recognition domains—how would one target these proteins differently if their key active sites are so similar?

NMR spectroscopy has become so precise recently that BIXT can fully understand the lock-key interaction of carbohydrates with galectins. As opposed to research with antibodies that bind to other proteins in protein-protein interaction, traditional, popular methods such as ELISA which use assays that light up in fluorescence with high-affinity binding, cannot be used in developing carbohydrate drugs. The NMR technique has the potential to design a drug highly specific to its target—for instance, a specific virus—and then his own expertise allows these carbohydrates to be manufactured, where they will likely translate well into the lab (in vitro) and the clinic (in vitro). BIXT is the first company to do glycovirology, an approach that has the potential to be the magic bullet for viruses, a term Paul Ehrlich coined for an antibiotic for syphilis. The company's COVID-19 antiviral has the potential to be much better than Pfizer's Paxlovid which is on track to do $20 billion in sales this year.

Nobel Prize #2: Oxygen

If that potential and value discrepancy wasn't enough to knock investors off their feet, the other Nobel prize science-based asset BIXT has is an oxygenation drug, potentially appliable to a wide range of acute ailments and degenerative diseases. Unlike other oxygenation platforms which rely on ozone, increased breathed oxygen pressure (oxygen chambers, increasing oxygen diffusion (Diffusion Pharmaceuticals (NASDAQ: DFFN), BXT-25 and its related compounds work through heme, the body's natural oxygen transportation molecule which is found on red blood cells. Heme accepts and donates oxygen depending on the oxygen concentration so it is its own regulatory mechanism to keep oxygen at just the right level. The vast majority of oxygen transport occurs through heme and not soluble oxygen, but heme alone breaks down in the blood and can cause iron toxicity. BIXT solved this issue by stabilizing heme in a carbohydrate scaffold where the heme can still work but not be broken down. Additionally, this molecule is 1/5000th the size of a red blood cell and so it can pass through clots, which is why BIXT is advancing its development in ischemic stroke, a multi-billion dollar market. The current drug used for stroke is TPA, tissue plasminogen activator, which essentially busts clots and helps reoxygenate the blood. The issue is that this causes hemorrhage in certain patients so it's only used

after checking for no hemorrhagic stroke. It also has to be administered within a few hours. The result is that about 5% of patients get the drug, yet the drug still sells over $2 billion annually. This makes the market for BXT-25, which should not carry these risk factors while accomplishing the same task and potentially being able to be administered immediately, an almost $50 billion global market. And that's just for ischemic stroke.

Bioxytran's Oxygenation Pipeline

Past stroke, the drug has potential in other metabolically impaired diseases such as NASH, where fibrotic tissue can impair the diffusion of oxygen from blood vessels into the tissue (hepatocytes). This propagates inflammation and fibrosis. The application in organ transplantation is more straightforward, where the drug could be used in lieu of tissue-matched blood transfusion.

Sizing the Potential

Long-COVID, acute COVID, and ischemic stroke represent some of the highest-burden medical indications in existence. These disease states represent tens of billions each, in the case of the market opportunity for stroke and acute-COVID, to trillions in economic burden in the case of long-COVID. Bioxytran finds itself in an enviable position to capitalize on these opportunities to better patients' lives as it develops its Nobel prize-related technologies.

The opportunity for investors in Bioxytran could surpass that of the CRISPR companies. The company is trading for a fraction of the size of those companies while its market opportunities remain just as large or larger, and more numerous. These companies gained hundreds of millions to billions in market cap after being connected to Nobel prize-worthy technology. BIXT shares increasing in valuation of a similar amount would make it a multibagger, if not a unicorn.