

## Twitter Thread by Ben



**Ben**

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**1/ n As promised, a quick thread. Combination of my (non-PhD / layman's) dive into learning about Monoclonal Antibodies and how it's helped me uncover a few fun / interesting group of companies: \$SDGR \$ABCL \$TWST \$IPA (new QQQ uplist -formerly \$IPATD) and most recently \$LGND**

Ok - first, a \*quick\* history lesson - in the last ~3 months, I have been increasingly obsessed w/ learning about monoclonal antibodies. It started as a simple pattern recognition that a lot of the biotechs I was investing in were in this space - \$HGEN \$PRVB \$MGNX \$ONCT etc.

Not to mention, all of these new COVID therapeutics ( \$LLY \$REGN ) were antibody based - what the heck exactly are these things? I found myself watching basic videos - like this simple 3 minute cartoon summary... <https://t.co/aJPVqCTMTH>

.. to this podcast on the history of monoclonal antibodies, like this Nature podcast: <https://t.co/iXcq56RR5I> And a bunch of more academic / scientific white papers and articles that are far too dry to share here

Probably a good time to add that I barely made it past high school biology - my academic and professional background is all based around finance / math / SaaS - so as much as I'm interested in biotechnology, it's all self-taught and I needed to start with the basics

Anyways - the overly simplistic takeaway I came away with was that we know antibodies are capable of curing / reducing LOTS of diseases. But in 2020 we are now faced with a near infinite supply (of antibody combinations) and the constraint is around discovery and testing

Playing a role in speeding up the "time to fail" and identifying "signal through the noise" part of drug discovery process can shave years / maybe even decades of bringing a drug to market - this is very, very valuable stuff.

Quick side plug for a super fascinating video on DeepMind's entrance into this arena with AlphaFold:

<https://t.co/gvRFnDzYuK> This is really, really cool stuff and as seen by the DeepMind teams progress in 2020 -we're starting to hit an inflection point.

Anyways - back to antibody Antibody Drug Discovery - two basic sides of the equation here 1) Production and Cataloguing - the sourcing and manufacturing of the antibodies - think the raw materials / "spice shelf" equivalent and 2) Manual or Computational Modeling and Testing

Upstream from the clinical trial phase (which preceeds the commercialization phase) pre-clinical / drug discovery is critical to creating an essential "Top of the Funnel" pipeline for new and innovative drugs

This is where companies like Schrodinger \$SDGR Ligand \$LGND Abcellera \$ABCL Immunoprecise \$IPA and Twist \$TWST - as I come across new companies, I am building out a basket of what you might call the "21st Century Pick and Shovel" companies of biotech drug discovery

I like this arena because it's less of a binary bet on any single drug or company's ability to execute and more of a way to directly play the macro theme of Biotech coming into a new golden era of rapid drug discovery and development

Some of these companies get more attention than others, but I have found all of them have overlapping business models / IP / and partnerships - many of them are even partners with each other. \$IPA for example is a partner of both \$LGND & \$TWST - \$TWST + \$SDGR are partners, etc.

Many of them have realized that they are sitting on goldmines and treasure troves of data themselves and have begun the process of bringing some of the development efforts in-house - \$SDGR spun off \$MORF , \$IPA has Talem Therapeutics, etc.

\$LGND which I was diving into last night has multiple different business units focused on top of funnel drug discovery - OmniAb is the antibody production and discovery side of the house - which based on my past research into \$IPA and \$ABCL is what originally caught my eye

This asset-light "upstream focused" model allows them to focus on the science (& partnerships) & take on very little risk from a capital-outlay perspective - as you see below, we've got a business that I believe is starting to hit it's stride in 2021 w/ many shots on goal

Capitol is a biz unit that produces a key ingredient to many late-stage clinical and approved drugs - including Remdesivir w/ Gilead \$GILD . One trick pony you ask? Not so fast - Contract revenue broke out in Q4 - and take a look at their partners page: <https://t.co/qeszYOYeK6>

So little known Ligand now has over half a billion dollars in cash w/ no debt, just acquired a \*very\* interesting asset in August with Pfenex for ~\$500m, and over 60% of the shares borrowed short - catalyzed by an old 2018 Citron short report. Very thin name only 15m shares float

If the Ligand is able to do a better job of telling their story: the crucial role they play in drug discovery, the massive pipeline they are building, and additional approvals in 2021 help build confidence in their biz model and IP - stock could trade significantly higher

I am adding Ligand to my "Pick and Shovels" play on biotech innovation via antibody production and computational discovery - also to my portfolio along with \$IPA - \$ABCL \$SGDR and \$TWST will remain on my shopping list for the next market pullback.

Anyways, thats enough for one thread... hope some folks found it interesting! By no means an expert here as the cartoon youtube video hopefully shows - very open to sharing of additional related content or reading, questions, other interesting companies to dig into in this space