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Astra finds no fit for rare diseases in latest big pharma spin-out

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Astrazeneca gave birth to the latest big pharma baby today, unveiling a relatively well-stocked biotech focused on inflammation and autoimmune conditions. Called Viela Bio, the new company boasts three clinical-stage assets and is Astra's third spin-out of the past decade.

For all the talk of wanting to make the most of potentially valuable assets gathering dust on shelves, big pharma is not a hugely prolific out-licensor. Still, setting up new companies around research projects is far from simple, and one that some seem unwilling to attempt. A trawl of *EvaluatePharma* reveals that European big pharma groups are the most enthusiastic parents, though Pfizer is an exception in the US (see table below).

In fact, with five under its belt, the US pharma giant is almost as prolific as Merck KGaA, although as this analysis shows the German group seems to have cooled to this strategy in recent years. Perhaps lack of notable progress by its progeny was discouraging, though presumably the potential for financial gain is not the only motivation for these huge corporations.

The take-outs of the likes of Movetis, Actimis and Novexel no doubt made some proud parents. But the rates of success, in terms of takeouts or R&D progress, among the offspring below is not so startling. This perhaps is why the likes of Merck & Co and Bristol-Myers Squibb have not been persuaded to jump-start this spin-off activity.

Birthing innovation: notable biotech spin-outs from big pharma			
Parent	**Child**	**Spin-out date**	**Details**
The European efforts			
Astrazeneca	Entasis Therapeutics	2015	Massachusetts-based, focused on anti-bacterials.
	Albireo Pharma	2008	Massachusetts-based, focused on liver and GI diseases; now Nasdaq-listed.
Sanofi	Impact Biomedicines	2016	California-based, focused on myeloproliferative neoplasms & other cancers.
	Novexel (spun from Aventis)	2004	France-based, focused on antibiotics and antifungals. Bought by Astrazeneca for $505m in 2010.
	Proskelia (spun from Aventis)	2002	France-based, focusedon bone diseases. Bought by Prostrakan for $170m in 2004.
Glaxosmithkline	Nerre Therapeutics	2012	UK-based, focused on neurokinin receptor antagonists.
	Autifony Therapeutics	2011	UK-based, focused on hearing loss, tinnitus & other CNS disorders.
	Convergence Pharmaceuticals	2010	UK-based, focused on chronic pain. Bought by Biogen Idec for $200m up front in 2015.
Merck KGaA	Tocopherx	2013	Massachusetts-based, focused on infertility.
	Prexton	2012	Netherlands-based, focused on neurodegenerative diseases

	Therapeutics	2012	Netherlands-based, focused on neurodegenerative diseases.
	Asceneuron	2012	Switzerland-based, focused on tau protein-related pathologies.
	Poxel	2009	France-based, focused on metabolic diseases. Now listed on Euronext Paris.
	Tioga Pharmaceuticals	2005	California-based, focused on pruritus.
	Nitec Pharma	2004	Switzerland-based, focused on inflammation and pain. Bought by Horizon Pharma in 2010 in all share deal.
Novartis	Mereo BioPharma	2015	UK-based, focused on rare diseases. Now listed in London.
	Mipharm	2008	Italy-based, mixed focus.
	Nabriva Therapeutics	2006	Ireland-based, focused on antibiotics. Now listed on Nasdaq.
	Speedel	1998	Switzerland-based, focused on hypertension. Bought by Novartis for $880m in 2008.
Bayer	AiCuris	2006	Germany-based, focused on antivirals and antibacterials.
	Actimis Pharmaceuticals	2004	California-based, focused on respiratory & inflammatory disorders. Bought by Boehringer Ingelheim $515m in 2008.
Roche	Basilea Pharmaceutica	2000	Switzerland-based, focused on bacterial infections, fungal infections and cancer. Now listed on Swiss stock exchange.
	The Cytonet Group	2000	Germany-based, focused on liver diseases. Bought by Promethera Biosciences in 2016 in all-share deal.
	Novuspharma	1999	Italy-based, focused on oncology. Bought by Cell Therapeutics for $196m in 2004.
The US efforts			
Pfizer	Springworks Therapeutics	2017	Maryland-based, focused on oncology, genetic & neurological indications.
	Ixchelsis	2011	UK-based, focused on premature ejaculation.
	Raqualia Pharma	2008	Japan-based, focused on pain and GI. Now listed on Jasdaq.
	Esperion Therapeutics	2008	Michigan-based, focused on heart disease. Now listed on Nasdaq.
	Nerviano Medical Sciences	2004	Italy-based, focused on cancer.
Eli Lilly	BioCritica	2011	Indiana-based, focused on critical care; assumed bankrupt.
	Muroplex Therapeutics	2006	Indiana-based, focused on immunomodulatory compounds; assumed bankrupt.
Johnson & Johnson	Prep Biopharm	2015	UK-based, focused on upper respiratory tract infections.
	Orapharma	2010	Pennsylvania-based, based on oral healthcare products. Bought by Water Street in 2010, then Valeant for $312m up front, in 2012.
	Movetis	2006	Belgium-based, focused on GI diseases. Bought by Shire for $537m in 2010.
Note: Only includes R&D-stage companies focused on human therapeutics; medtech excluded. Source: EvaluatePharma			

EvaluatePharma.

Company formation is certainly not a strategic priority for big pharma, so perhaps it is surprising that so many of these transactions actually get off the ground.

In the first instance, cheerleaders must be found for the assets deemed non-core – both internally and among external investors – a process that must take serious time and resources. Returns on these investments like Movetis, which was bought just four years after spinning out from J&J, are the exception rather than the rule.

Astrazeneca, meanwhile, has made a name for itself with its externalisation strategy, though these company spin-outs must represent the least visible way of monetising its peripheral assets.

Viela is taking six compounds from Astra's Medimmune unit, and though the company states that inflammation and autoimmunity fall outside its core areas the firm is keeping hold of a lupus asset, anifrolumab.

The three clinical assets that Viela will push forward are all being studied in rare conditions. And while Astra denies that Viela is a rare disease company per se, it is notable that many big pharma groups seem to be struggling to find a way to make niche projects work within structures that will always operate on a bigger-is-better mentality.

Of course others in the industry have embraced the rare disease revolution much more enthusiastically, and it will be interesting to see how Viela fares independently. Perhaps finding an unmet need for on-the-shelf assets is a more viable way forward for big pharma, at least while investors remain in love with orphans.

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