



Texas Gov't Awards Mirna \$5M Grant; Firm Aims to File Two INDs in 2011

January 14, 2010

Newsletter: [RNAi News](#)
[RNAi News - January 14, 2010](#)

Currently, there are "a lot of folks that are interested in the microRNA space," including "pharma venture funds, which is a good sign," he added.

Still, Lammers conceded that the miRNA therapeutics space is in its infancy. And having watched the siRNA space for "quite a few years," potential partners and investors are well aware of issues such as efficiency of delivery, toxicity, and off-target effects.

As far as toxicity and off-target effects, Mirna may have an edge given that its therapeutic approach involves replacing miRNAs that are normally expressed, rather than down-regulating ones, potentially disrupting natural processes elsewhere in the body.

"Obviously, we see that [our mimics are] taken up by tumor cells and healthy cells, [and get] degraded as part of the normal machinery in the cells," Lammers explained. "If I put another 100 copies into a cell that already has 10,000 copies of this specific microRNA, it doesn't really matter so much. But [cells] that have an under-expressed microRNA truly need even those 100 or 200 copies that you bring in."

When it comes to delivery, Mirna is exploring two avenues. The first is a lipid emulsion technology that has been exclusively in-licensed from an undisclosed party, and which the company used in the *in vivo* studies it presented last year.

For the other approach, "we're working in a research collaboration with [an undisclosed] Japanese company to develop a nanoparticle delivery [vehicle] that they have used and has already been in humans," Lammers said. "We're currently doing *in vivo* experiments to see if we can further optimize it.

"We will make a decision in the next few quarters about what we're going to do delivery-wise and which route we're going to take," he added. "I don't want to re-start a program later on, and I want to make sure we have one that is safe, non-toxic, and gets the microRNA to the target."

Meanwhile, Mirna is also considering growing its staff, not only to meet the ETF requirement that award winners increase the number of technology jobs in Texas, but also to bring in-house the capabilities needed to oversee pre-IND research and, ultimately, clinical studies.

As such, "we're looking to add a few positions ... and grow this company in a reasonable fashion," he said, adding that Mirna's current eight-employee roster could increase to about 12 over the course of 2010.

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