

## Avidity Biosciences Announces Publication on Targeting Therapeutic Oligonucleotides by Arthur A. Levin in the New England Journal of Medicine

**LA JOLLA, CA — January 5, 2017** - Avidity Biosciences LLC, a biotechnology company advancing antibody-siRNA conjugates (ASCs) as a new class of precision medicines, today announced a publication entitled, "Targeting Therapeutic Oligonucleotides" in the most recent issue of the New England Journal of Medicine.<sup>1</sup> The paper was authored by Arthur A. Levin, Ph.D., Executive Vice President of Research and Development at Avidity.

Dr. Levin summarized the advantages of targeted strategies for the delivery of therapeutic oligonucleotides. "Recent work indicates that the usefulness of the technology can be increased by conjugating oligonucleotides with targeting moieties so that they home to specific cell types," said Dr. Levin, citing examples of enhanced delivery of antisense oligonucleotides (ASO) and small interfering ribonucleotides (siRNAs) conjugated to triantennary *N*-acetylgalactosamine (GalNAc) moieties. Citing enhanced potency and potentially lower toxicity of conjugates, Dr. Levin states, "targeted delivery was determined to result in a median effective dose that was one thirtieth of that associated with nontargeted delivery, which clearly underscored the potential advantage of the approach." Moreover, he suggests the potential to move beyond targeting hepatic tissue to oligonucleotide delivery in other cell types: "there remains a need to target nonhepatic cells specifically and efficiently: a means to achieve this goal could lie in the exploitation of the natural heterogeneity of cell surface receptors."

The article appeared in the Clinical Implications of Basic Research section of the January 5, 2017 issue of the [New England Journal of Medicine](#).

Arthur A. Levin has an unparalleled track record and reputation in the field of nucleic acid-based therapeutics. Prior to his role at Avidity Biosciences, he held senior drug development roles at miRagen Therapeutics, Ionis Pharmaceuticals and Santaris Pharma. He has played key roles in the development of numerous oligonucleotides including the first approved antisense NDAs, and the first microRNA-targeted therapeutic in clinical trials. He has a combined three decades of experience in all aspects of drug development from discovery through drug registration, both in large pharma and biotech companies. Dr. Levin has published over 60 scientific articles and several of the most cited reviews in the field. He serves as a director of the Oligonucleotide Therapeutics Society and holds several additional scientific organization affiliations and honors. He received a doctorate in toxicology from the University of Rochester, and a bachelor's degree in biology from Muhlenberg College.

### About Avidity Biosciences

Avidity Biosciences is a privately held biotech company pioneering a new class of precision medicines – antibody-siRNA conjugates (ASCs™) – which combine the strengths of monoclonal antibodies and siRNA-based therapeutics. Avidity is collaborating with partners to discover and develop best-in-class drug candidates against important undrugged therapeutic targets. The company has entered research collaborations with leading biopharma companies and is actively seeking additional partnerships. Avidity has raised \$25 million in venture financing from a top-tier group of sophisticated healthcare investors. More information about Avidity Biosciences can be found on the company's website at [www.aviditybiosciences.com](http://www.aviditybiosciences.com).

---

<https://aviditybiosciences.investorroom.com/2017-01-05-Avidity-Biosciences-Announces-Publication-on-Targeting-Therapeutic-Oligonucleotides-by-Arthur-A-Levin-in-the-New-England-Journal-of-Medicine>