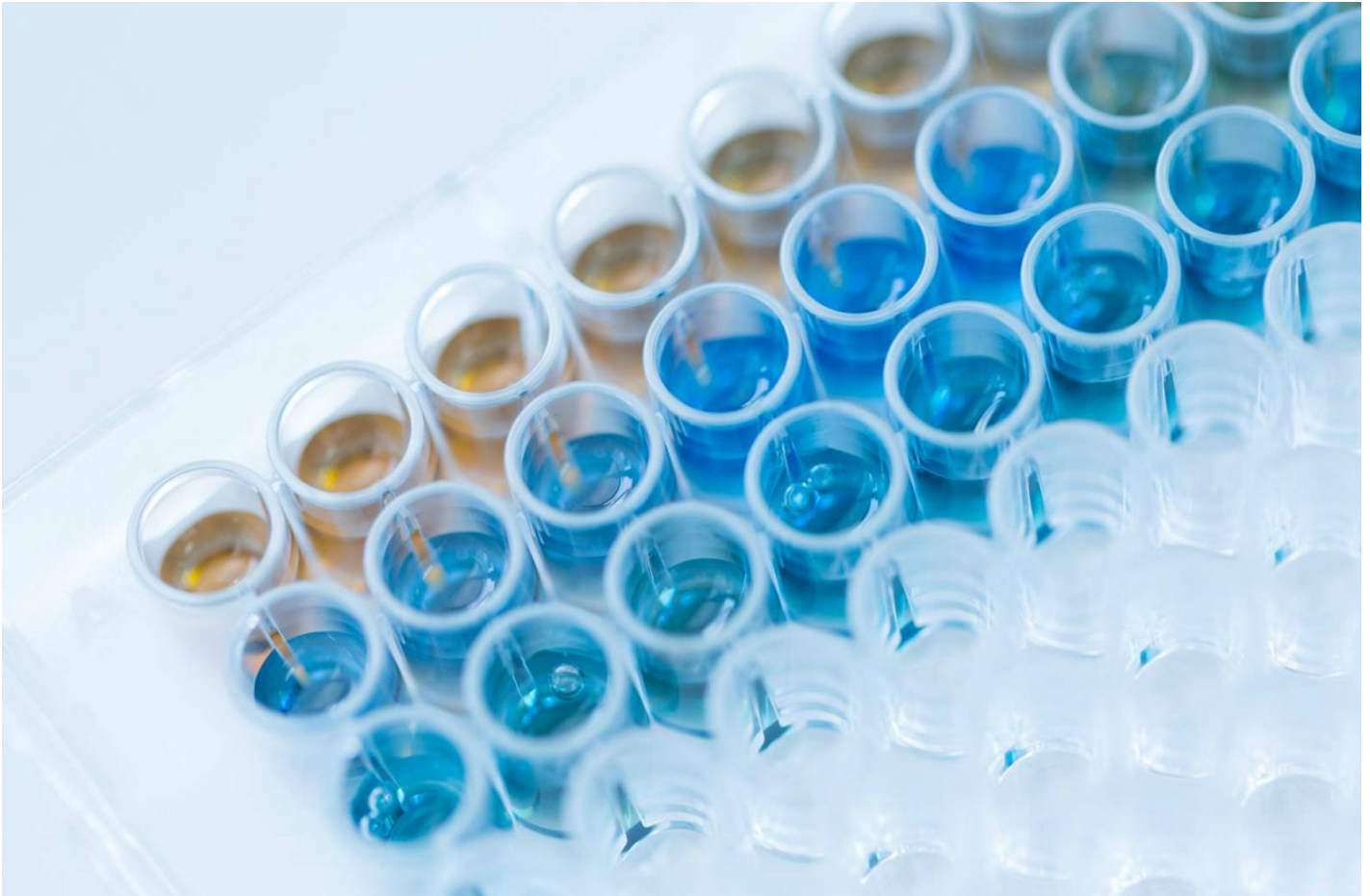


## Research Yields New Chemicals For Pharmaceutical Development

University of Nebraska



Located in Lincoln, Neb., Rieke Metals, Inc. derives its competitive advantage from technology developed at the University of NebraskaLincoln. The technology is a patent protected method for producing new organo-metallic reagents (chemicals comprised of an organic molecule and a metal atom).

For approximately 100 years chemicals known as Grignard reagents have been used in chemical reactions with other organic molecules to form new chemical compounds. Grignard reagents contain a magnesium atom, are highly reactive and have been used to produce many pharmaceuticals. Grignard reagents, however, prove to be too reactive with a large number of organic molecules because of their specific chemical structure. For these molecules, a Grignard reagent's reactivity destroys the organic molecule during the reaction.

Rieke Metals, Inc. produces reagents similar to Grignard reagents, known as organo-metallic reagents, which contain zinc metal in place of magnesium.

“ *The use of zinc in place of magnesium creates a reagent that will undergo much more mild reactions with organic molecules. Rieke organo-metallic reagents do not destroy the organic molecules that would be destroyed by Grignard reagents.*

In other words, the reagents produced at Rieke Metals allow the synthesis of a massive number of organic compounds which could not be produced previously using Grignard reagent technology. These organic compounds have special chemical structures (functional groups) that allow pharmaceutical researchers to create new drugs with new biological functions within the body.

Developed from 1991-1994 by Dr. Reuben Rieke, the funding for the research and development for this technology came from the U.S. Department of Health and Human Services Small Business Innovation Research grant programs. Rieke Metals, Inc. has been producing high quality compounds since 1992 having supplied more than 350,000 molecules to clients under research contract.

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