

# EXECUTIVE Q&A | J. Jean Cui, Co-Founder of TP Therapeutics



Jamie Scott Lytle

Finding a way to defeat drug-resistant cancers is the mission of drug-maker J. Jean Cui, co-founder and chief scientific officer at TP Therapeutics.

**J. Jean Cui** could be the poster girl for accomplished women in science, but good luck convincing her of that.

The humble drug designer keeps a low profile in her San Diego lab, and may never have reached the spotlight if not for an appreciative colleague (who couldn't help but call in to brag on her accomplishments).

Cui, 52, is the co-founder and chief scientific officer of **TP Therapeutics**, a company dedicated to solving the problem of drug-resistant cancers. Of all people to tackle the issue, the inventor of a top-selling cancer drug may have a fighting chance of succeeding.

Cui is the lead inventor of **Pfizer's** targeted cancer drug **Xalkori** — an achievement that earned her prestige (along with many awards and honors) in the scientific community. The popular medication trounced chemotherapy in a lung cancer trial last year and currently has annual sales of \$438 million. Some analysts are predicting that Xalkori could reach blockbuster potential by 2020, raking in over \$1 billion per year.

## Team Player

But when asked how that makes her feel — that her discovery led to a potential blockbuster product — Cui shrugs shyly and attributes her success to teamwork.

“Drug discovery is such an integrated team effort,” she says.

Cui's valuable contribution to Pfizer was the result of decades of persistence. She followed her project from one company to another, following the science through the rocky M&A activity typical of drug development.

When Xalkori reached the market

in 2011, Cui wasn't satisfied with her contribution to the patients.

“I saw problems with Xalkori and other drugs available for this type of cancer, and I knew that someone needed to work on these problems so that we could provide better medicines for patients,” Cui said. “That's why I resigned from Big Pharma — to start a company that could solve these problems.”

Cui founded TP Therapeutics in 2013 with her husband, **Y. Peter Li**, who is serving as its president and CEO. The venture is seeking to solve the problem of drug-resistant cancers — a problem that Pfizer and other oncology drugmakers know too well.

With a team of eight people, Cui's company is in late-stage pre-clinical trials. Cui said the company will likely file an Investigational New Drug application with the FDA in 2016.

Cui recently answered questions for the **San Diego Business Journal**. Here are some excerpts:

## What made you decide to dedicate your career to drug-resistant cancer?

When you see late-stage patients take the drug, you get to see them return to their normal life for a short time. Sometimes, it's a couple of years, but often it's only two or three months. And then the cancer becomes resistant to the drug the patient is taking. There is so much basic research and understanding about why this resistance happens and how it happens. So the picture is there, and it's very actionable to solve these issues. When we spend the money to do the basic research, somebody needs to transfer the basic research to benefit the patient. This is where I, as a drug designer, can do more work on this part.

## So you're hoping to offer something more effective than Xalkori for patients with cancer?

Many companies are working on this drug resistance problem. Drug resistance with cancer is like antibiotic resistance and bacteria. As the first generation becomes less effective (and the cancer becomes resistant to the drug), they develop a second generation, and then a third generation. This becomes very expensive.

I have a different idea. I want to stop this endless evolution. I hope we can design this to become a loop. Meaning, two or three molecules can completely solve the evolution problem. We want to design a central molecule, which is a new concept. Instead of one generation after another, it can be a loop instead of an endless effort.

## Why not design this for Pfizer?

My position at Pfizer was a medicinal chemist. We were assigned to work on projects and were not always allowed to finish jobs. My position did not really allow me to think about the whole picture.

## Women in science is a hot topic in the media right now. What are some of the challenges of being a woman working in science?

Balancing career and family is a big issue. You only have so much time. That's why you have to pick a field you're really good at, and one that you enjoy.

I don't have time for other hobbies because my work is my hobby. You must really love what you do. Another important factor is having a supportive husband, which I absolutely do.

## Nobel laureate Tim Hunt caught a lot of flak earlier this year when he made chauvinist comments about women working in labs.

### What was your reaction to Hunt's comments?

A lot of science is lab work, and it is important in basic research to be persistent and observant. There's a lot of science that suggests that women are more persistent and more observant than men. In terms of scientific research, this kind of work fits a woman's personality quite well. This is why I just couldn't understand why he would make a comment like that.

## Have you ever encountered gender bias in your career or even earlier while still in school?

My experience was quite different than women and girls in America. In China, boys and girls are in an equal position, especially in early education. I never had the feeling that I shouldn't pursue science. In fact, when I was in China it was a booming time for science. I was encouraged to pursue science, and so were other girls in my school.

## How do we improve gender equality in science?

Some people think that it will be too hard, and that they should pursue something that they have a chance at being good at. It's important that girls have the confidence to know that they can do it. Teachers are vital for driving interest in science, and it's important that they encourage girls from a young age.

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