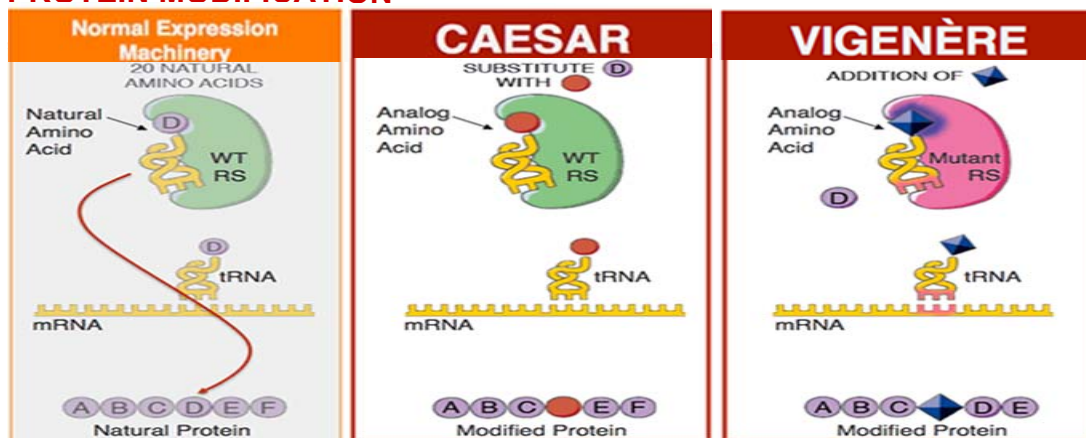




### OPPORTUNITY

**ALLOZYNE**, a privately held and clinical stage biotech, has rapidly developed a number of protein therapeutics through its next generation protein engineering technology in order to serve unmet medical need in various autoimmune and CNS diseases. These platforms, **CAESAR** and **VIGENÈRE**, are able to site specifically modify any protein sequence through the substitution or addition of non-canonical amino acids, which possess unique chemical functions, create the opportunity to site specifically modify proteins through various conjugations that will lead to enhanced efficacy, safety and tolerability profile. Engineering proteins in this manner unlocks an advanced class of chemical reactions that are superior to conventional methods available for protein modification.

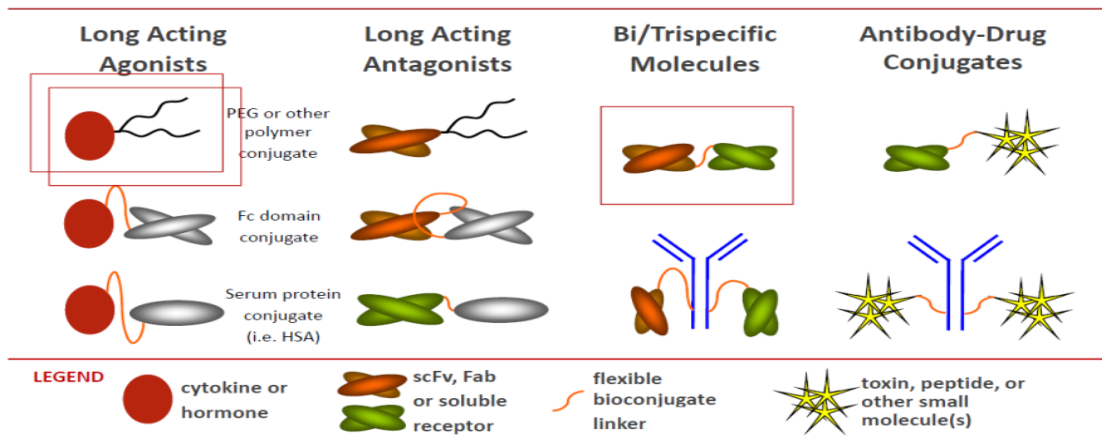
### BIOCIPHERING PLATFORMS PROVIDE HANDLES FOR SITE SPECIFIC PROTEIN MODIFICATION



**CAESAR** Proteins are synthesized in cells that are unable to provide one of the 20 amino acids necessary for survival. Instead of the missing amino acid an analog is supplemented to the cells. In such conditions the cells generate novel proteins with amino acid analogs incorporated in place of its natural counterpart and used as specific sites for subsequent chemical modifications and improvement of polypeptide features.

**VIGENÈRE** Proteins are synthesized in cells expressing a mutant synthetase-tRNA that incorporates an added 21<sup>st</sup> amino acid analog. No alteration to the wild type sequence is needed on the target protein. The amino acid analog is used as the site for chemical modifications in order to improve a selected feature of the polypeptide.

### AZ01, AZ17 and AZ21 EXEMPLIFY BROAD APPLICATION OF BOTH BIOCIPHERING PLATFORMS



### Company Snapshot

Proprietary site specific protein bioconjugation platform

Autoimmunity and MS focused clinical stage pipeline

Founded in 2005 by MPM, ARCH, OVP and Amgen Ventures

Privately held and Seattle based

\$39M in funding to date

Exclusive rights from California Institute of Technology

World renowned Scientific Advisory Board

### Management Team

Meenu Chhabra  
*President & CEO*

Kenneth Grabstein, Ph.D.  
*Chief Scientific Officer*

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*Executive Chairman*  
*Managing Director of Clarus Ventures / MPM BV III*

Carl Weissman  
*Managing Director*  
*OVP*

Steven Gillis, Ph.D.  
*Managing Director*  
*ARCH Venture Partners*

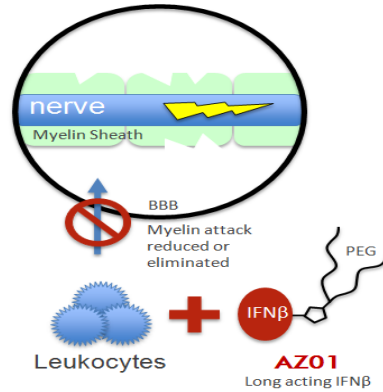
Janis Naeve, Ph.D.  
*Director*  
*Amgen Ventures*

David A. Tirrell, Ph.D.,  
*Chair of Chemistry and Chemical Engineering Departments*  
*CALTECH*

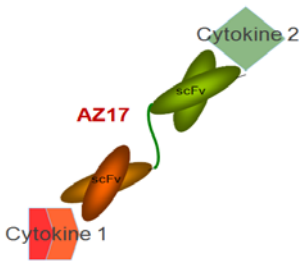
Meenu Chhabra,  
*President & CEO*  
**ALLOZYNE**

## AZ01: LONG ACTING INTERFERON $\beta$ IN PHASE I

**AZ01** is a long acting form of interferon  $\beta$ , the current gold standard therapy for multiple sclerosis patients and represents the lead product candidate in **ALLOZYNE's** risk-reward balanced MS pipeline. Construction with the *E. coli* based, **CAESAR** platform allows for customization of the position, size and architecture of the conjugated polyethylene glycol (PEG) moiety, resulting in an improved half-life compared to commercially available interferon  $\beta$  molecules. Clinical and preclinical data supports every-other-week with the possibility of monthly dosing, as well as fewer side effects and likely improvement in patient compliance.



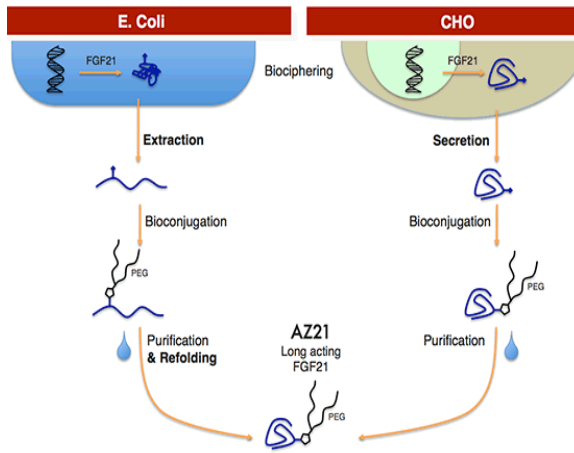
## AZ17: BISPECIFIC MOLECULE WITH BROAD THERAPEUTIC APPLICATIONS FOR INFLAMMATORY DISEASES IN PC DEVELOPMENT



Th17 cells have been recently linked to the disease progression of MS as well as have been shown to play a role in other autoimmune diseases such as Crohn's and psoriasis. **AZ17**, a bispecific molecule generated from *E. coli*, simultaneously inhibits two cytokines involved in the Th17 pathway through a novel mechanism of action. The site specific linkage of **AZ17's** two binding domains is a product of **ALLOZYNE's** proprietary **CAESAR** bioconjugation platform. **AZ17** has demonstrated superior efficacy to that of a marketed product in a human disease model and has shown to inhibit the differentiation and effector function of human Th17 cells in vivo.

## AZ21: MODIFIED FIBROBLAST GROWTH FACTOR 21 (FGF21) FOR TYPE II DIABETES IN LEAD OPTIMIZATION

**AZ21** is a long acting form of FGF21, a member of the fibroblast growth factor family of proteins, which is currently being developed in both the **CAESAR** (*E. coli*) and **VIGENÈRE** (mammalian) platforms. **AZ21** can overcome the need for multiple and frequent administration by its conjugation to a known and validated chemical moiety, polyethylene glycol (PEG), proven to elicit extended elimination half-life and reduced clearance. Animal studies have shown that treatment with FGF21 lowers plasma glucose and increases insulin sensitivity but the beneficial effects require repeat or prolonged exposure and are not observed after a single administration.



## 2011 PIPELINE

Program	Indication	Discovery	Preclinical	Phase I	Phase II	Phase III
AZ01	Multiple Sclerosis					
AZ17	Inflammation					
AZ21	Type II Diabetes					

## Multiple Sclerosis Advisory Board

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