David Rabuka, J Biotechnol Biomater 2018, Volume 8
DOI: 10.4172/2155-952X-C2-090

David Rabuka

Catalent Biologics, USA

Developing site-specifically modified ADCs using a chemoenzymatic approach

We have developed the SMARTag™ technology platform, which enables precise, programmable, site-selective chemical protein modification. Leveraging the target sequence of formylglycine generating enzyme (FGE), we chemoenzymatically modify proteins to generate a precisely placed aldehyde functionality that can be chemically elaborated. Subsequently, novel ligation chemistry is employed that exploits this "aldehyde tag" site. We will present recent data on our novel protein modification platform and its application to generating novel bioconjugates, including ADCs, utilizing our new conjugation chemistries and linkers. The application of these chemistries to generate site-specifically modified bioconjugates with improved efficacy and safety profiles will be presented. Additionally, we will highlight the progress in developing conjugates with a focus on preclinical studies as well as highlight our progress in cell line development and manufacturing by using this chemoenzymatic approach.

Biography

David Rabuka received a PhD in Chemistry at the University of California, Berkeley as a Chevron Fellow in the Lab of Carolyn Bertozzi. His research included developing and applying the SMARTagTM platform technology to cell surface modification. Prior to joining Bertozzi's lab, he worked at the Burnham Institute synthesizing complex glycans followed by Optimer Pharmaceuticals, where he focused on the development of glycan and macrolide based antibiotics. He was CSO, President and Co-founder of Redwood Bioscience, where he developed novel protein conjugation methods and biotherapeutic applications such as antibody-drug conjugates. Redwood Bioscience was acquired by Catalent Pharma Solutions in Oct 2014, where he has continued to apply the SMARTag™ technology with various collaborators and partners as a Global Head of R&D. He graduated with a Double Honors BS in Chemistry and Biochemistry from the University of Saskatchewan, where he received the Dean's Science Award, and holds an MS in Chemistry From the University of Alberta. He has authored over 45 major publications, as well as numerous book chapters and holds over 30 patents.

david.rabuka@catalent.com

Notes: