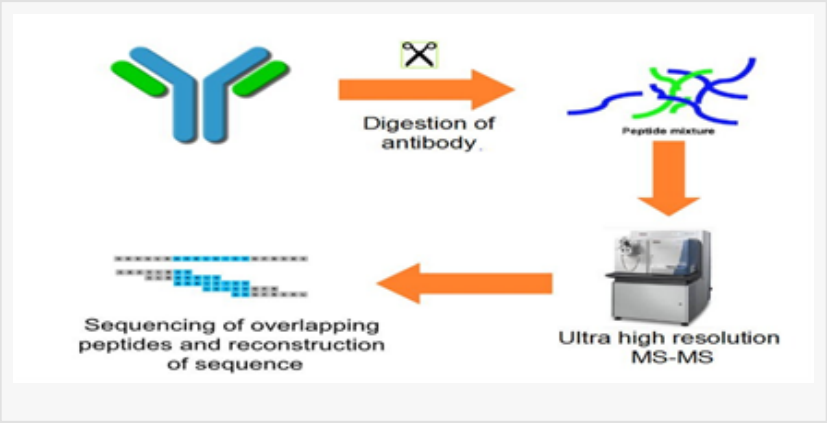
The Role of De Novo Antibody Sequencing in Diagnostics and Therapy

Creative Biolabs Anounces De Novo Antibody Sequencing Service for Diagnostic and Therapeutic Use



SHIRLEY, NEW YORK, USA, June 19, 2015 /EINPresswire.com/ -- Based on its next generation antibody sequencing platform, Creative Biolabs carried out a series of de novo antibody sequencing services with the usage of “Database Assisted Shotgun Sequencing" (DASS) technology. With this service, isotypes and allotypes of antibodies can be sequenced with 100% coverage.

Numerous successful cases have brought Creative Biolabs more confidence in meeting the requirements of research, diagnostic and therapeutic industries, de novo sequencing of the CDR3 region for instance.

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> *Dr. Monica Müller*

The CDR3 of the light chain is mainly encoded by the germline sequences, while that of the heavy chain is usually not available in databases. It is encoded by the so called D-segments, but these are modified by nucleases and terminal transferases. Typically, only 1-4 AA of a D-segment remain in the matured antibody. The rest of the D-segment is “artificial” and has to be sequenced de Novo.

Creative Biolabs’ method generates many overlapping peptides during the fragmentation process, enabling it to sequence very long stretches of unknown amino acids. The high quality of MS/MS spectra in combination with intelligent data mining, allows it to read the CDR3 as easy as reading a book. The technique is so powerful that enabled Creative Biolabs to sequence a 20 kDa protein, which had no homologue in the database.

In contrast to other MS based methods, Creative Biolabs is able to discriminate most isobaric amino acid combinations. W can be distinguished from GE, AD and SV by mass difference. R can be distinguished from GV by mass difference. N can be distinguished from GG by derivatization and fragment spectra. Q can be distinguished from GA and K by fragment spectra and mass difference. Although leucine and isoleucine cannot be distinguished, most of other positions can be determined using the corresponding germline sequence (see the figure).

About Creative Biolabs

Creative Biolabs is a professional anibody related service provider from the USA. Since been

established in 2005, it has been focused on the research and development of antibodies utilizing various technologies including phage display, bacterial display and yeast display. Its services include antibody production by liposome immunization, anti-idiotypic antibody (Anti-ID Abs) production service, nanobody (single domain antibody) service, custom specific antibody service, in situ hybridization service and so on. In addition, antibody sequencing services of nanobody, rat and other rodents are also available. For more information, contact Creative Biolabs at: (631) 871-5806 or visit Creative Biolabs.

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