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Next-gen cloning and purification technologies to rapidly generate synthetic genes and proteins

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There is a constant need for faster and more efficient cloning and protein purification methods at all scales within the Synthetic Biology field. Scientists can accelerate the generation of synthetic gene expression constructs using our innovative Next-Gen In-Fusion® HD Cloning Plus technology which is fast (15 mins), highly efficient (>95% cloning efficiency), sequence independent (any insert can be cloned into any vector at any locus), seamless (no extra bp), directional, and HTP ready. After generation of the required expression construct and downstream expression of the target protein, Takara offers Next-Gen Capturem™ technology to allow fast (5-15 mins) and easy resin free purification of high quality and concentrated His-tagged proteins or native untagged antibodies. Our revolutionary Capturem technology, available in miniprep, maxiprep and 96-well plate formats, consists of spin columns or plates containing high-capacity nylon membranes immobilized with either Ni²⁺ or Protein A, thus allowing His-tagged protein or antibody purification directly from even complex matrices, such as cell supernatants or serum, within minutes. This talk will review several applications of our technologies including HTP antibody cloning, simplified purification of membrane and secreted proteins, fast hybridoma screening, and rapid immunoprecipitation (IP)/co-immunoprecipitation (Co-IP). We will also introduce our new Capturem Trypsin technology that enables 1 min on-column tryptic digests.

Biography

Malathi Raman has been the European Cloning & Protein Product Manager at Takara Bio Europe since 2011, and manages Takara's entire Cloning and Protein product range including the innovative In-Fusion® HD Cloning and Capturem™ Protein and Antibody Purification technologies. Prior to joining Takara, she worked as a Post-Doctoral Research Fellow for 3 years, within the group of Professor Terry Rabbitts, at the LIMM in Leeds, United Kingdom, identifying novel protein-protein interactions involved in the pathogenesis of prostate cancer and Ewing's sarcoma. She obtained her PhD in Cardiac Genetics from Imperial College London, United Kingdom, in 2008.

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