



KnipBio Achieves Key Scale-up Milestone

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January 18, 2018.

For immediate release

(Lowell, MA) January 18, 2018. – [KnipBio, Inc.](#), a producer of premium aquaculture feed ingredients, announced it has completed a critical development step with the successful production of KnipBio Meal™ single cell protein in a 20,000 liter fermentation vessel. This work, done in cooperation with a major North American contract manufacturer, was designed to demonstrate the scalability of the company’s protein manufacturing process in preparation for full commercial operations next year.

According to Larry Feinberg, CEO of KnipBio, “Our team has worked tirelessly since the completion of our last scale-up and it’s exciting to see these efforts come to fruition. Successfully moving from 1,500-liter to 20,000-liter production is a critical pre-commercialization step and offers solid proof that our fermentation process is highly scalable. By working with a recognized leader in industrial fermentation, we were able to leverage their experience to overcome process challenges and at the same time identify improvements leading to significant manufacturing cost savings. As an added bonus, we crossed the metric ton production threshold, enabling us to provide volume samples to selected industry partners who will be conducting feed trials on a range of aquaculture species.”

Meeting the protein needs of the world’s growing population with Earth’s limited resources is one of the major challenges facing humankind. The aquaculture industry is uniquely qualified to meet this challenge because fish are the most efficient source of animal protein, requiring a fraction of the land and fresh water needed to produce terrestrial protein. According to experts, aquaculture has the potential to feed the planet using just 2% of the ocean’s surface. There is, however, a significant roadblock to making this a reality- the lack of sustainable and healthy proteins and oils needed to feed farmed fish and shrimp. Fishmeal is in increasingly short supply and concerns have been raised regarding soybean protein digestibility. Research has shown KnipBio’s single cell protein closely resembles the amino acid profile of fishmeal and can also be a source of valuable immunonutrients, making it a promising alternative.

Feinberg continued, “To be successful in the aquaculture protein market we must be price-competitive with fishmeal and soy protein, so I was impressed that we managed to reduce production costs by more than 15x with this scale-up. Our next manufacturing goal is achieving full commercial-scale production. Additional opportunities include the use of ethanol waste



streams to serve as feedstocks for our fermentation process. These efforts kick off in 2018 and will enable us to meet our aggressive cost reduction targets.”

About KnipBio: [KnipBio, Inc.](http://www.knipbio.com), is a Massachusetts-based company pioneering advanced nutritional solutions for animal feeds from sustainable and responsible feedstocks. Using innovative biotechnology, the company has developed KnipBio Meal- a range of premium aquafeed ingredients built around the company’s ‘**PROTEINplus**’ technology that combine immunonutrients with single cell protein. KnipBio is committed to maintaining a level of transparency to promote sustainable and environmentally sound practices. For more information, visit www.knipbio.com or contact us at info@knipbio.com

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