Meet Nuritas, the bitoech using AI to identify the next generation of intelligent ingredients

As part of our quick fire questions series – or QFQs – we spoke to Dr. Andy Franklyn-Miller, Chief Medical and Innovation Officer at Nuritas about intelligent ingredients, explaining peptides and proving an AI model in life science.

There is a lack of innovation within ingredients in food, many have been discovered decades ago, mostly with cost, taste and texture in mind. However as the modern global population becomes more aware of the effects of diet on health in both longevity and illness prevention and also of the environmental impact food production has, they begin to look for both innovation in protecting the environment but also in what nutrition can provide for them.

In Pharmaceutical discovery, the focus is on innovation with long timelines, patents and high costs, but in food and nutrition the costs of novel discovery are rarely balanced and as such the lack of new ingredients is apparent with a focus on small iterations are seen rather than advances.

When founding *Nuritas*, Dr. Nora Khaldi's goal was to unlocking a new era of discovery using artificial intelligence (AI) to identify the next generation of intelligent ingredients from plant-based source to identify ingredients which

can positively affect the health of billions, using peptides, cell signalling molecules to complement and unlock benefits within food not yet realised.

Tell me about the business – what it is, what it aims to achieve, who you work with, how you reach customers and so on?

Using our artificial intelligence platform, the Nuritas Magnifier NπΦ, we are able to identify, out of a universe of 6 trillion peptides, the best-performing peptides for specific functions in the body. Our data scientists based in Dublin, Ireland start with either the cell function we would like to achieve, such as reducing blood sugar or targeting a specific cell receptor, and using our proprietary library of peptide data catalogued in our laboratories in proteomics using mass spectroscopy the peptide sequences of plant based sources, the biology assays carried out and catalogued to show cell actions, and in our formulation and manufacture labs- the process of unlocking these peptides and then in clinical trials , demonstrate their efficacy and produce them with the aim of improving people's health. Each peptide that we discover can deliver different results on the human body, activating natural pathways with precision and safety.

We follow a B2B model and have partnered with the early adopters in the Sports Nutrition and supplement space, shaping the trends on their markets, with a specific focus on the USA. For instance for our PeptiStrong™ ingredient, which focuses on muscle health, we have partnered with Glaxon to create a new supplement called Anomaly, available with the market leaders: Glaxon & GNC. This early recognition by the leading companies in sports nutrition is something we are really proud of. There are also two other new products on the market, which are powered by Nuritas' PeptiStrong™: Nutrabolt has launched a Cellucor P6 innovation, and HealthGevity has released their anti-aging, precision peptide supplement LONGEVITY. Many more are coming, watch out for the next solutions powered by Nuritas.

How has the business evolved since its launch? When was this?

Since launching 9 years ago, Nuritas has grown rapidly, and is located on Dawson Street in Dublin with proteomics and biological assay laboratories along with a data science team. We successfully exited Series B funding in 2022 and now strengthening our international presence with a business

development team, sales, product formulation and regulatory team in the US. Our platform has demonstrated its exceptional accuracy over 80% success at clinical trials, and has been used by leading companies to develop proprietary ingredients, and our focus is now on our ingredient portfolio, with a commercial stage in the business.

Tell us about the working culture at Nuritas

We have a wide and diverse staff from across the world, speaking multiple languages and from far ranging backgrounds. There is a culture of excellence, one where failure is not feared, but embraced as part of pushing boundaries and achievement. Our team follow a hybrid model in working in the laboratories and from home and across the world. We are small yet growing fast and our culture and values are important to all in the company.

How are you funded?

Nuritas has received a total of $75M two funding rounds. We are extremely proud of the support and trust of our leading investors, Cleveland Avenue, Cultivian Sandbox, Grosvenor, ECBF and VisVire New Protein.

What has been your biggest challenge so far and how have you overcome this?

One of biggest challenges here is explaining the role of peptides, although these are proteins there a millions of these travelling around your body at any moment in time, not as an energy source but as microscopic signalling proteins instructing cells to change function or trigger action when the peptides binds to specific receptors. A recent randomised controlled trial we performed in Maastricht, demonstrated that our cell signalling peptides altered proteins synthesis in muscles 4 x as well as milk protein, one of the first times a plant protein had outperformed an animal protein. This showed huge potential in enhancing and unlocking the available protein with non meat sources making them greener, less waste and more valuable as sources of nutrition. Peptides are beyond nutrition alone.

How does Nuritas answer an unmet need?

Nuritas became the first biotech company to prove an AI model in life science, all the way from ingredient discovery to commercialization. Our mission is to revolutionise ingredient development unlocking the power of peptides to improve health in humans, animals and in industrial applications. We apply the same rigorous standards in randomised controlled clinical trials in humans to demonstrate the benefits of the peptides in real like, and currently are working on two new clinical trials with wearable technology so we can show the power of peptides to the und user in improving sleep and also in reducing the impact of sugar within foods.

The company has launched two brand new patented ingredients in recent months PeptiStrong™, a plant-sourced revolution in muscle health, and PeptiYouth™ designed to improve skin's cellular regeneration and reduce wrinkles.

What's in store for the future?

Over the next few years, Nuritas aims to revolutionise the ingredient business and to reach billions of people with their life-changing ingredients targeting significant areas of lifespan such as cardiometabolic health, bone and cartilage health, neurocognition and muscle health along with energy and vitality.

And finally, a more personal question! What's your daily routine and the rules you're living by at the moment?

In such a rapidly changing environment with so many areas of development, two things I am focussed on right now is the Pomodoro method, where my day is split into 30 minute windows – with 25 minutes focused on one specific task (like answering these questions) and an enforced 5 minute distraction time. There are plenty of apps designed to help and I find it hugely useful to reduce distraction but allow a multi focused productive day.

The second, as a Sport and Exercise medicine physician by training is exercise – getting in the gym or even a walk around St Stephens Green park in Dublin for a walking meeting is an essential part of the routine.

Dr. Andy Franklyn-Miller is Chief Medical and Innovation Officer at *Nuritas*.

Article by DR. ANDY FRANKLYN-MILLER