ProColl have been awarded a grant from the Innovate UK Transformative Technologies initiative under the engineering biology theme, to fund the advancement of its precision fermentation technology. This will enable ProColl to produce Type II and Type III recombinant human collagen at scale. The award from Innovate UK recognises the expertise that ProColl have in synthetic biology and the potential for transforming the supply of collagen to meet the market need for innovative animal free collagen.

Collagen is the main component of tissues such as skin, bone, and cartilage, where it provides strength and structure alongside biochemical signalling. Consequently, collagens are the focus of medical R & D with applications within wound healing, regenerative medicine, and aesthetics. With the aging population and the rapid developments we are seeing, such as 3D printing of organs and cell therapy, the demand for collagen is only set to increase as collagen is the key biomaterial in tissue growth.

Collagen is primarily sourced and extracted from animal tissues, raising issues with increased immune response, rejection, inter-species transfer of disease vectors including both viruses and prions, as well as religious and ethical considerations. To address these issues ProColl brought to market Type I recombinant human collagen and with the Transformative Technologies award are set to be manufacturing Type II and Type III recombinant human collagen by the turn of the year.

Here at ProColl we are extremely excited by the award of the Transformative Technologies grant as no other company can offer animal free recombinant human versions of Collagen Types I, II, and III that make up 99% of all types of collagens. Type I is most abundant but Types II and III also play important roles in tissues. Type III collagen is the second most abundant collagen in humans, often co-located with type I collagen in the interstitial matrix and in skin. Type III collagen also leads the early phases of wound healing and granulation tissue formation following damage. Cartilage is composed primarily of type II collagen.

The ability to manufacture Types I, II, and III human collagen from non-animal sources will be of great benefit for medical research and medical device industries which are seeking more biocompatible, safer, and ethical sources of collagen.