



Giulia Passanisi

Product Manager

Abiel s.r.l.

<http://www.abielbiotech.com>

Bilateral Meetings

- Thursday (1:30pm - 6:00pm)
- Friday (9:00am - 12:00pm)

Description

Abiel is a biotechnology Italian company committed to R&D, production and commercialization of high quality lytic enzymes for biomedical and industrial applications. The company was founded in 2010 as a spin-off of Palermo University and CNR- IAMC.

We have developed a key technology platform to synthesize innovative recombinant collagenases class I and II in E.coli by a patented genetic engineering process. Collagenases in regenerative medicine are used as tissue dissociation enzymes to extract the relevant cells from biological tissues. Common marketed collagenases are produced by extraction technologies from *Clostridium histolyticum* (human pathogen) strains. However, they show limits in stability, batch-to-batch reproducibility, and endotoxins content. Thus, there is a strong researchers' need for pure, stable and standardized collagenases, to increase cell extraction protocols' standardization and cost-effectiveness. We fulfill these unmet need by synthesizing and commercializing stable, highly pure and toxic-free recombinant collagenases class I and II, and offering the possibility to formulate tailored blends for each application. Abiel cooperates with its customers and partners to allow researchers to develop efficient, customized, standardized and cost-effective cell extraction protocols, thanks to recombinant collagenases' stability, reproducibility and purity. Applications range from isolation of human/murine Langerhans' islets to stem cells from adipose tissue, from hepatocytes to osteoblasts, chondrocytes, and fibroblasts isolation, and all procedures where collagenases play a key role. Collagenase can also find applications in cosmeceutics, pharmaceuticals (including wound healing, burns) and industrial applications. Abiel's R&D relies on the expertise of its team in biochemistry, cell biology, developmental biology. Abiel applies its know-how in advanced tissue dissociation enzymes blends to develop standardized and reliable in vitro cell-based models using primary and stem cells for a wide range of applications from drug screening to cytotoxicity to regenerative medicine. Abiel also provides services and R&D in the field of lytic enzymes, particularly the screening, characterization and production of new proteolytic enzymes from biomarine resources for applications in regenerative medicine, pharmaceuticals and cold industrial processes. Indeed, we aim to extend our pipeline with the introduction of new proteolytic enzymes from biomarine or other natural resources.

Organization Type

Company

Organization Size

1-10

Founding Year

2010

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Country

Italy

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Offer

Distributor sought for innovative life sciences reagents

Abiel is looking for distributors in Europe for its patented recombinant collagenases. If you are a Life Sciences distributor looking for innovative reagents to extend your portfolio we would be happy to meet you.

Collagenase are enzymes for cell isolation, used in all research labs working on primary cells, stem cells, cancer cells isolated from organs/tissues/ biopsies, and also in all processes where the digestion of collagen plays a key role, for example extraction of cells from collagen matrices.

In all regenerative medicine procedures the relevant living cells need to be isolated from the ECM through enzymatic digestion. Collagenases class I and II, among the enzymes utilized for tissue dissociation procedures, are the reagents of choice to isolate the cells from the ECM. The need for standardized and reliable enzymes has been remarked by a large number of researchers working with such enzymes in the field of cell therapy and regenerative medicine. Indeed, currently available collagenase show limits in stability and batches reproducibility, hampering the possibility for researchers to obtain reproducible results and to standardize protocols.

Collagenases are commonly produced through extraction and purification technologies from *Clostridium histolyticum*, the resulting product is actually a mix of enzymes, containing collagenases class I and II (two different isoforms) and other proteases. The content of the mix is hard to predict and to characterize and varies at every batch, so researchers need to re-test batches and recalibrate the process every time.

Abiel answers the need for standardized and stable enzymes by producing Recombinant Collagenases through a patented genetic engineering process in *E.Coli*. Recombinant collagenase class I and Recombinant collagenase class II are produced separately and purity is >99%. Thus Abiel can formulate well-characterized blends and supply standardized batches.

This gives enormous advantages in several ways:

- optimize and customize the blend for each application (different cell types, digestion time, protease available)
- no need to test batches every time
- reliable and reproducible cell isolation protocols.

Company's recombinant collagenases are research premium-grade products and are already in use for a number of

applications Recombinant like the isolation of hepatocytes, Langherans' islets, stem cells, osteoblasts, condrocytes, fibroblasts, cardiomyocytes and more.

Company is seeking for :

Distributors working in cell therapy, tissue engineering and regenerative medicine fields to commercialize the product across EU.

Licensing/ private companies interested in the technology/product to extend their pipeline.

Keywords: Distributors Regenerative medicine Cell therapy Reagents Enzymes Cell isolation Cells Cell biology

Cooperation Offered

1. License agreement
2. Sales / Distribution

Offer

Research projects coop: cell-based models, enzymes, biomarine, in vivo evaluation

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characterization.

Keywords: cells biomarine enzymes in vivo drug screening toxicity regenerative medicine cell therapy models cancer

Cooperation Offered

1. Technical co-operation

Request

Looking for Investment for GMP production scale-up

The need for standardized and reliable enzymes has been remarked by a large number of researchers working with such enzymes in the field of cell therapy and regenerative medicine. Indeed, currently available collagenases show limits in stability and batches reproducibility, hampering the possibility for researchers to obtain reproducible results and to standardize protocols. This need is even stronger for clinical applications when cells are transplanted into patients and for Advanced Therapy Medicinal Products (ATMP) industry. At the same time, regulatory agencies have not only recognized the need for standardization of cell therapy procedures and ATMP manufacturing, but also require GMP quality standards for the manufacturing process and reagents.

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This gives enormous advantages in several ways:

- optimization and customization of the blend for each application (adapt to different cell types, digestion time, protease available)
- no need to test batches every time
- reliable and standardized cell isolation protocols.

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Abiel is looking for investments to scale up its production to GMP certified in order to address the larger clinical market and business opportunity.

Keywords: GMP clinical cell therapy regenerative medicine ATMP regulatory manufacturing enzymes reagents cells

Cooperation Requested

1. Investment/Financing
2. License agreement