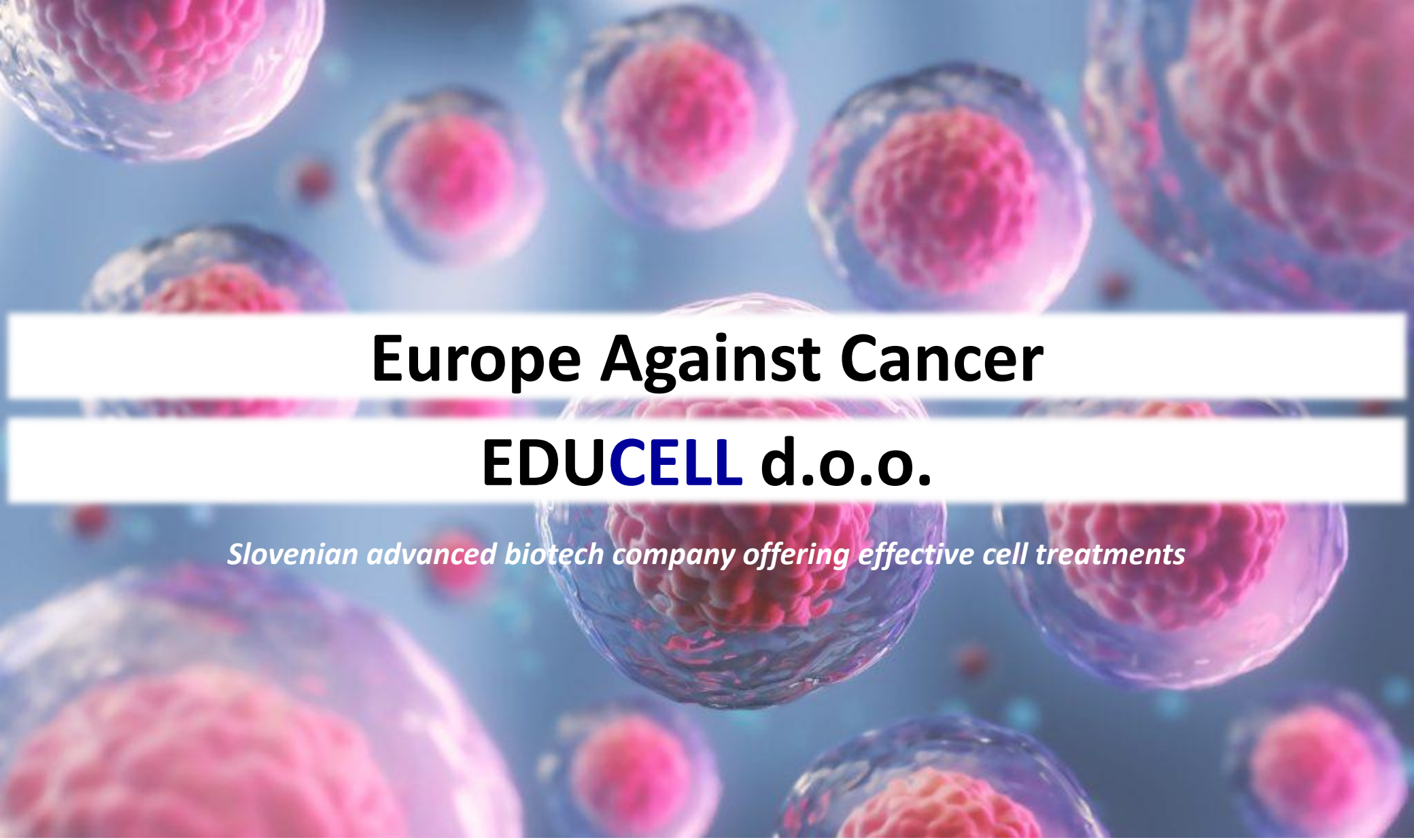


Europe Against Cancer

EDUCELL d.o.o.

Slovenian advanced biotech company offering effective cell treatments

EDUCELL
cell therapy service

Company history and business development

1997 — *Founding of Educell d.o.o.*

1999 — *ACI approved prom Ministry of Health for the treatment of knee cartilage lesions and accepted from Ministry of Health for financing.*

2000 — *Brand name ChondroArt 1D™*
First application of ChondroArt 2D™

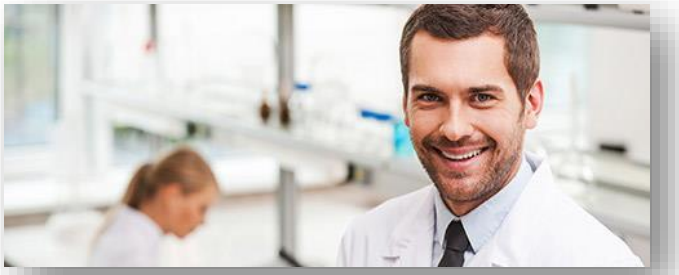
2001 — *First ACI implantation for the treatment of vesicoureteral reflux*

2007 — *First application of ChondroArt 3D™ – real 3D environment*

2008 — *UroArt™ approved from Ministry of Health for the treatment of vesicourethral reflux and accepted for financing;*
Tissue establishment license (Agency for Medicinal Products and Medicinal Devices of the Republic of Slovenia);
Founding of a related company Biobanka d.o.o.

2014 — *Acquisition by Medical Biobank Swiss Insitute AG/SA;*
Development of ImmunoArt cell therapy and other products

2020 — *Formation of the international Consortium Fight Against Coronavirus! or FAC!;*
Project application to The Horizon 2020 Innovative Medicines Initiative

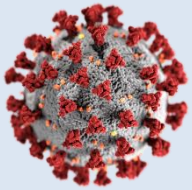


Educell‘s main products match unmet needs

ImmunoART - COVID-19

ImmunoArt *method was developed for severe cases of Graft-versus-host disease, which takes place after hematopoietic stem cell transplantation.*

ImmunoART *has the potential to* ***significantly reduce ARDS*** *and other lethal complications caused by COVID19.*



ARDS in non-COVID times prevalence is 500.000 cases per year.

Clinical study is being prepared to be able to access markets globally.

Educell is in a very strong position to compete globally.

Scaling to global need

OsteoART - Osteoarthritis

OsteoART *is a method of choice for early osteoarthritis and shallow (surface) chondral lesions.*

OsteoART is the leading product in Educell‘s family of four existing products for different injuries or preconditions in orthopaedic medicine.

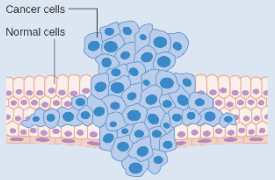
We forsee mass appeal of cell therapy based hip, knee and ankle joint treatments. The number of potential patients exceeds 200 million in developed countries, a potential new market >10bn€

Mass market product for 50+ generation

OncoART - Cancer

ATMP therapies (including CAR-T) *are a type of treatment in which a patient's cells are changed in the laboratory so they will attack cancer cells.*

Educell is developing its CAR-T therapy - ***OncoART*** *in the treatment of some types of cancer.*



Cancer therapy with ATMP cells can augment many existing therapies, especially biological drugs that have many side effects.

OncoART by Educell is in development. Any single indication breakthrough will be a billion € product.

Biggest hope for many cancers

Educell has many other potentially very strong products in its porftolio

ChondroART™	**AdipoART**	**CardioART**
CrohnART	**DentART**	**UroART™**

ImmunoArt™

- Cell therapy product based on bone marrow-derived mesenchymal stem cells (MSC)
- Hematology/Oncology (**2014**)
- Treatment of steroid-resistent GvHD
- Systemic application (I.V.) of **allogeneic MSC**

11 patients treated (6 pediatric, 5 adults); altogether 60 cell products were prepared

Efficiency of the treatment comparable to other centres

No severe adverese events related to MSC therapy

frontiers in Bioengineering and Biotechnology

ORIGINAL RESEARCH
published: 24 July 2018
doi: 10.3389/fbioe.2018.00093

IF = 5.2

Treatment of Severe Steroid-Refractory Acute-Graft-vs.-Host Disease With Mesenchymal Stem Cells–Single Center Experience

Maja Česen Mazič[1], Lenart Girandon[2], Miomir Kneževič[2], Simona L. Avčin[1] and Janez Jazbec[1]*

[1] Department for Pediatric Hematology and Oncology, University Children Hospital Ljubljana, Ljubljana, Slovenia, [2] Educell Ltd., Ljubljana, Slovenia

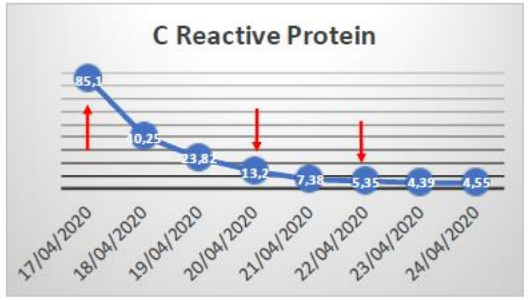
Recent applications of ImmunoArt™

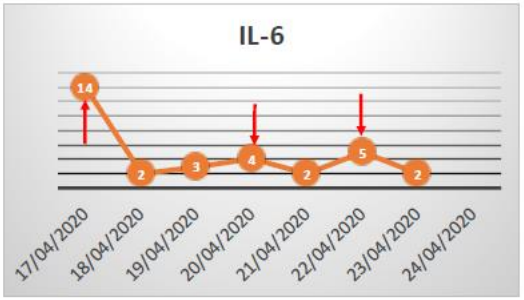
COVID19 patients with pneumonia/ARDS

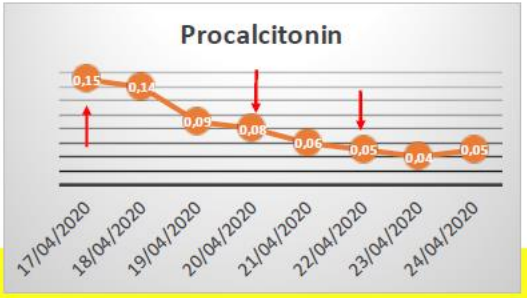
2 patients in Italy,
3 in Serbia

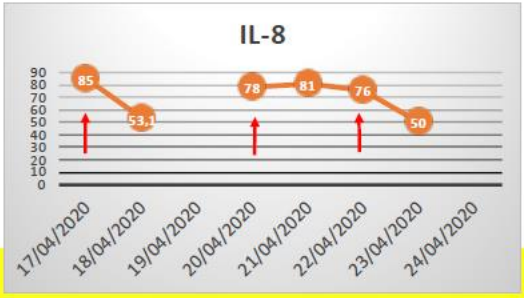
Results submitted to

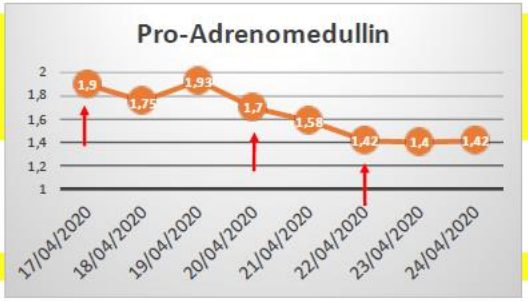
The New England Journal of Medicine; IF = 74.699

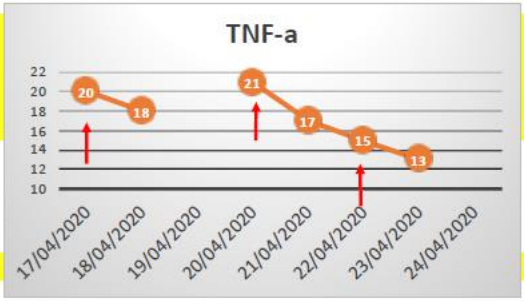








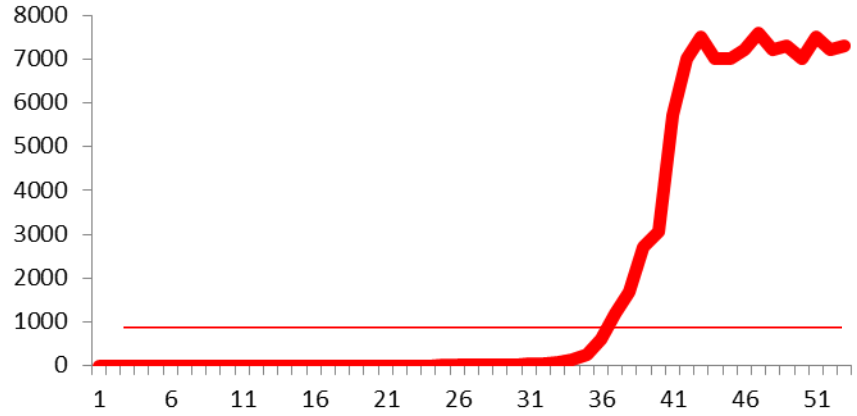




IMMUNOART™ CB/EXP

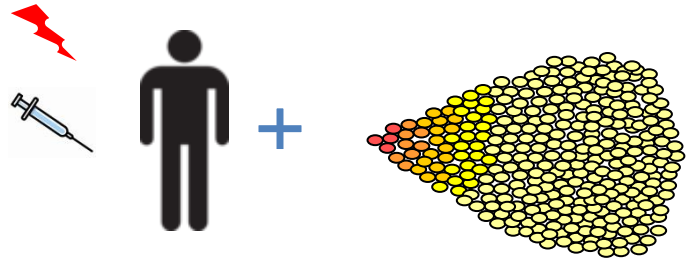
Conditioning

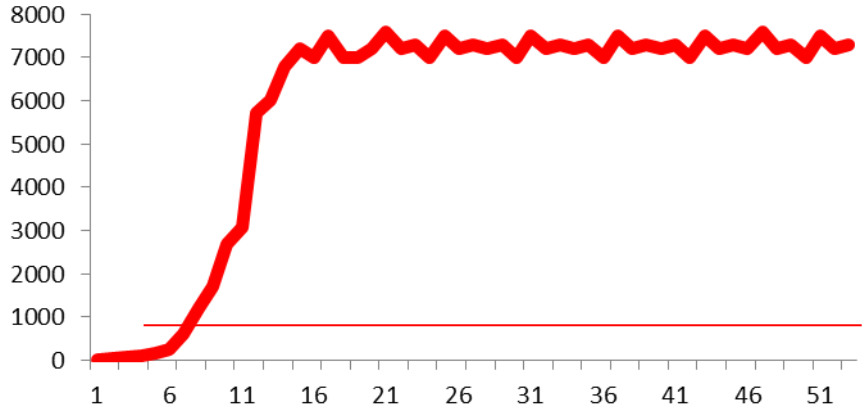
One CBU transplantation



Ex vivo amplification (expansion)

Conditioning

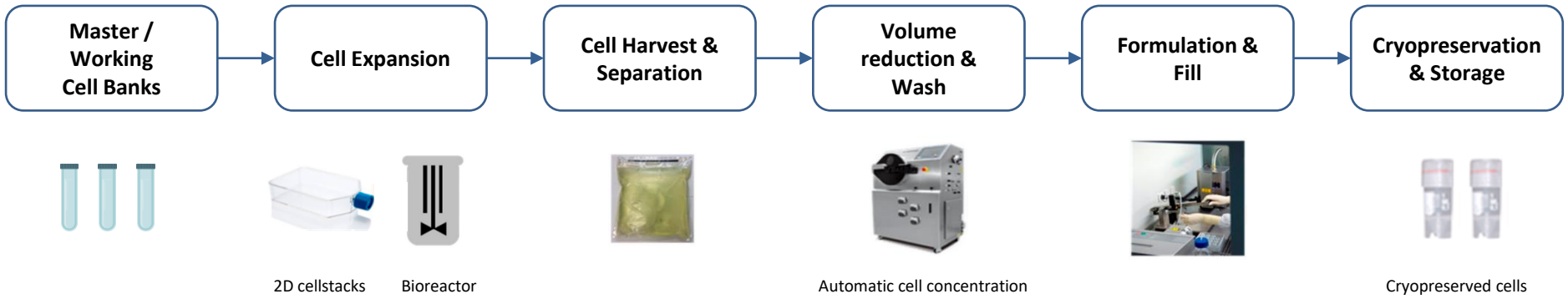




Preparation process

1. To prepare stromal/**stem cell** therapy product, first cells have to be **isolated from various tissues**, for example: bone marrow, belly fat (lipoaspirate), umbilical cord tissue.
2. Isolated cells from donors are prepared into a **master cell bank** – 1-10 million cells that are identified and characterized.
3. Isolated cells are then **selected and multiplied in bioreactors**, following detailed protocols.
4. The initial processes are **manual** - from master cell banks **working cells are prepared in reactors.**
5. The next step in the preparation is a **clinical batch** - which is **used directly for therapies**, not anymore for cell harvesting. Clinical batch is directly applicable, it is stored in liquid nitrogen bags.
6. One **bioreactor**, a device in use in many biotechnology labs, can produce up to **10 doses of ImmunoArt cells in a week**, ready to help **10 patients.**

Preparation process steps



Source: RoosterBio; International Journal of Molecular Sciences