



EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

# CAT's views on classification of ATMPs: homologous use

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# European body of legislative texts

The definition of ATMPs is laid down in Reg 1394/2007 modifying Dir 2001/83

Four Different types of ATMPs:

- 1. Gene Therapy medicinal products** (defined in Annex I part IV of Dir 2001/83 amended by Dir 2009/120 )
- 2. Cell Therapy medicinal products** (defined in Annex I part IV of Dir 2001/83 amended by Dir 2009/120 )
- 3. Tissue engineered products**
- 4. Combined ATMPs**



# Somatic Cell Therapy Medicinal Product

( defined in Annex I part IV of Dir 2001/83 amended by Dir 2009/120 )

Somatic cell therapy medicinal product means a biological medicinal product which has the following characteristics:

- (a) contains or consists of cells or tissues that have been subject to substantial manipulation so that biological characteristics, physiological functions or structural properties relevant for the intended clinical use have been altered, or of **cells or tissues that are not intended to be used for the same essential function(s) in the recipient and the donor;**
- (b) is presented as having properties for, or is used in or administered to human beings with a view to **treating, preventing or diagnosing a disease** through the pharmacological, immunological or metabolic action of its cells or tissues.



# Homologous vs/Non homologous use

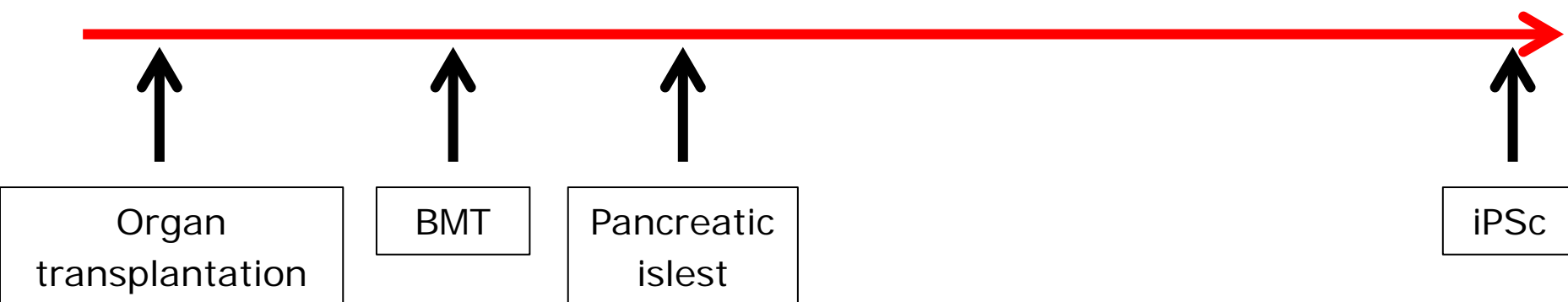
- **Replacement vs new function:**





# Homologous vs/Non homologous use

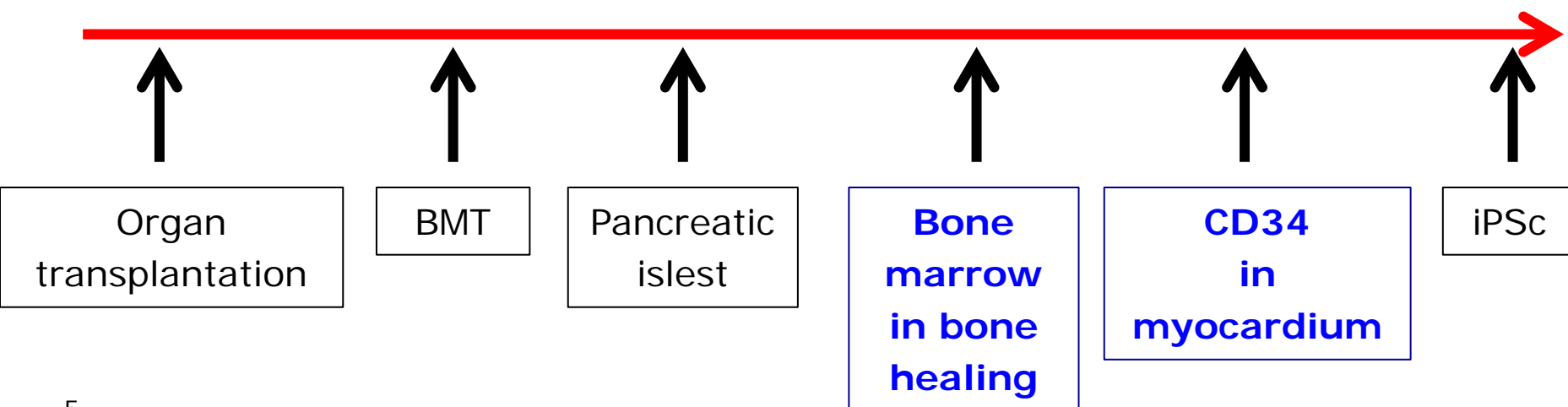
- **Replacement vs new function:**





# Homologous vs/Non homologous use

- Replacement vs new function:





## Homologous vs/Non homologous use

- **cells or tissues that are not intended to be used for the same essential function(s) in the recipient and the donor**

The CAT classification is based on two different criteria: location and function

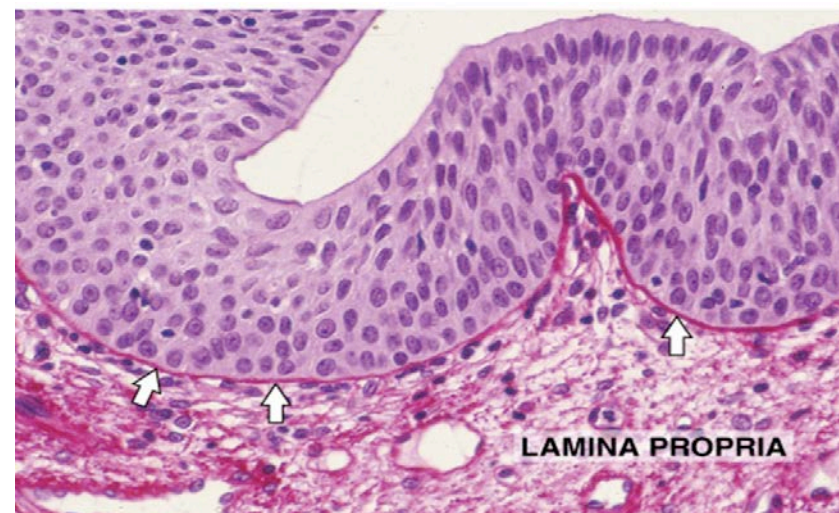
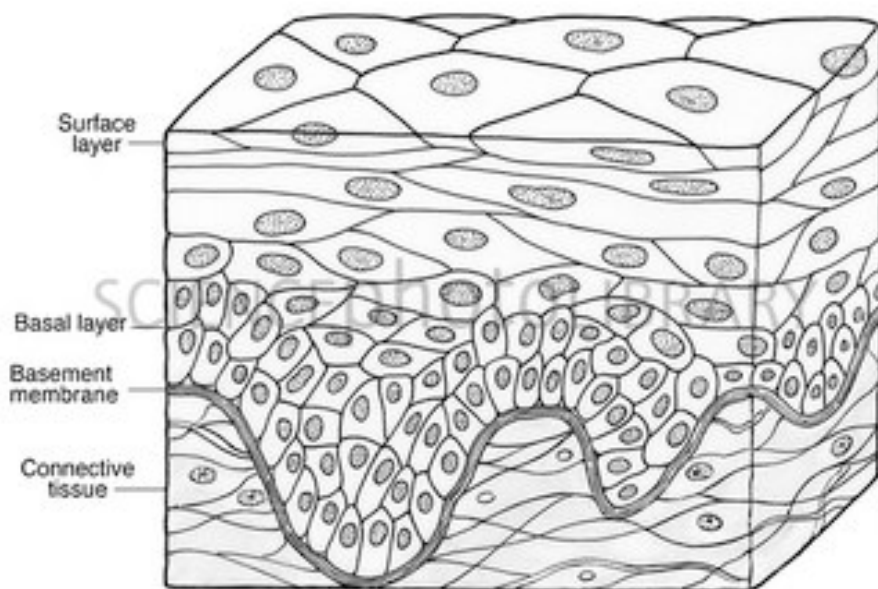
Replacement on an **original function** may require the **same anatomical or histological environment, especially for epithelial cells**

# Homologous vs/Non homologous use

## Reflection paper on classification of ATMPs

### EMA/CAT/600280/2010

- **Replacement: epithelium**



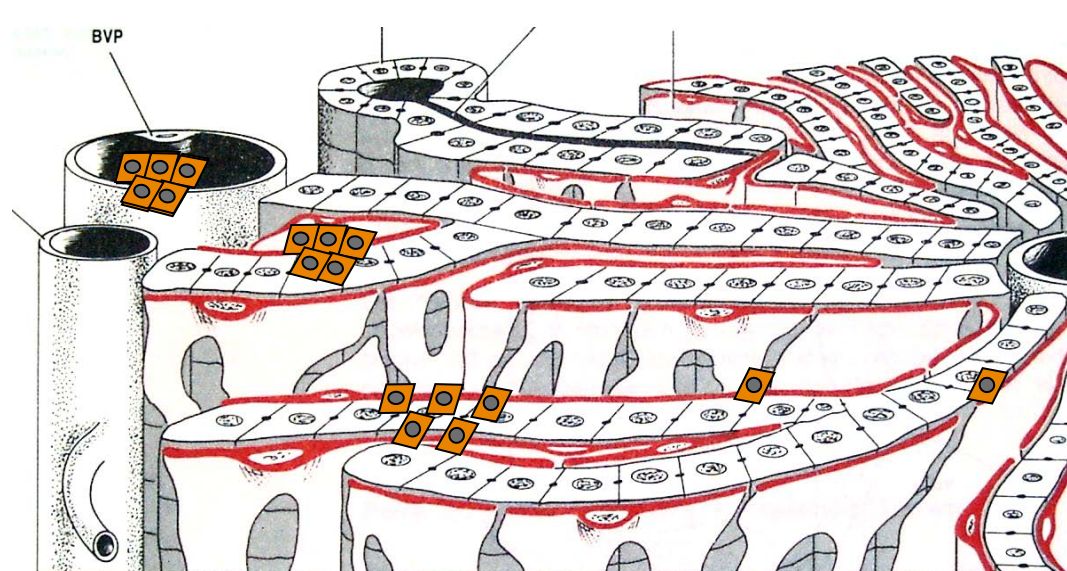
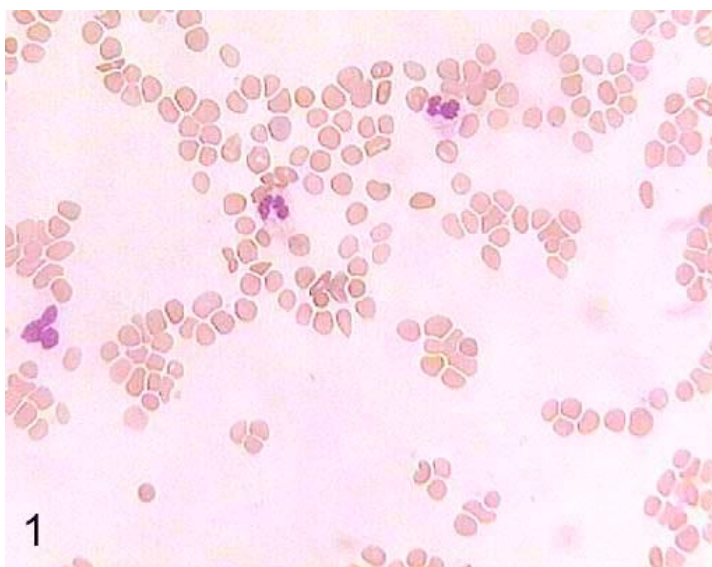


# Homologous vs/Non homologous use

## Reflection paper on classification of ATMPs

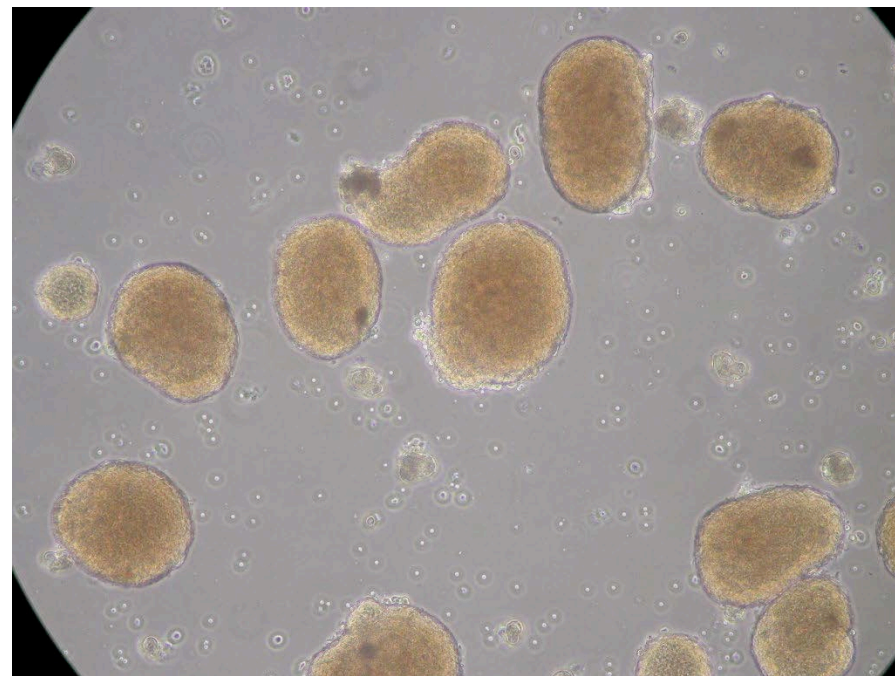
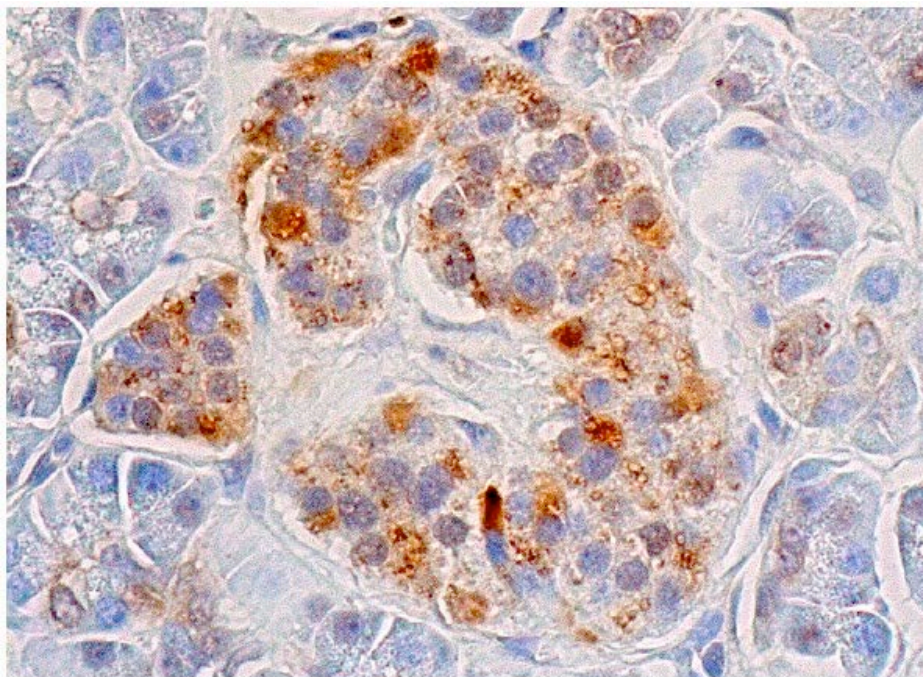
### EMA/CAT/600280/2010

- Cell dissociation means modification of histology and function except when reimplantation in the same epithelium



# Homologous vs/Non homologous use

- **Islet preparation retains histological structure and function**





## Homologous vs/Non homologous use

- **cells or tissues that are not intended to be used for the same essential function(s) in the recipient and the donor**

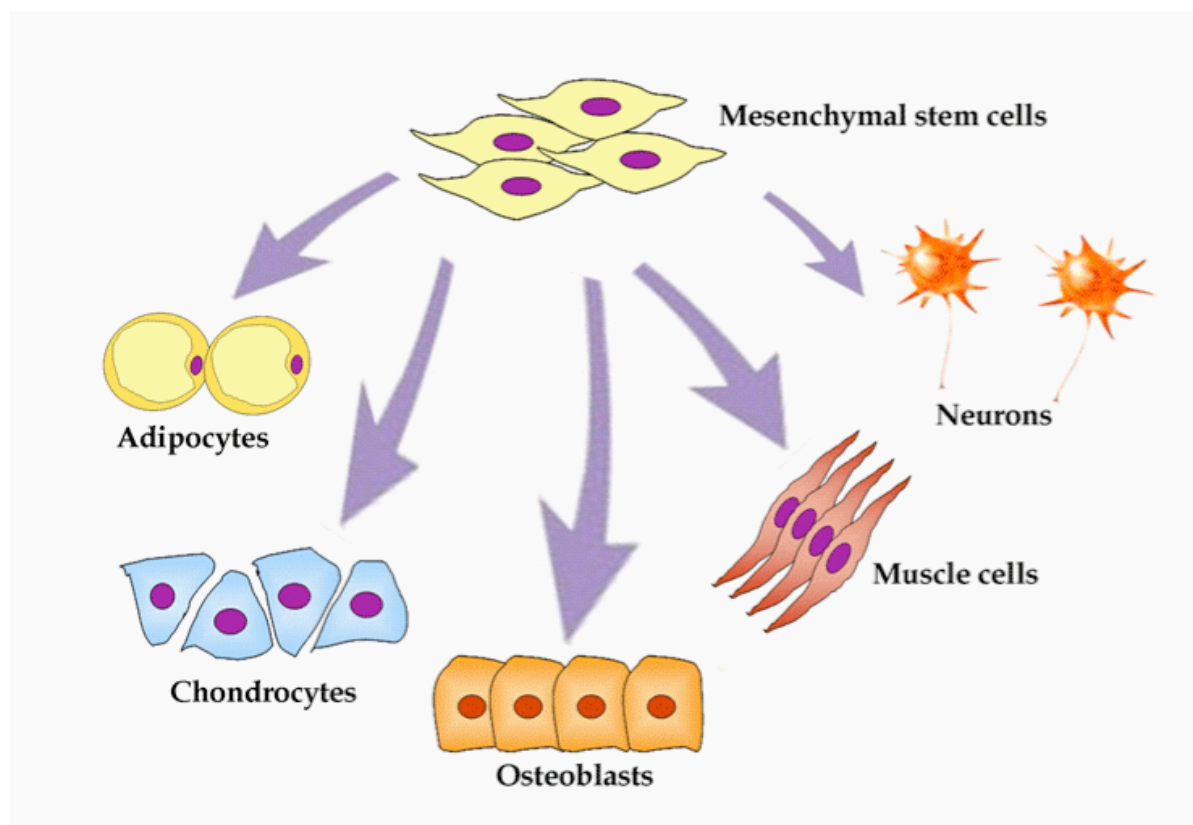
The CAT classification is based on two different criteria: location and function

For **mesenchymal cells**, the function is not dependent on the histological location



# Homologous vs/Non homologous use

- **different function**





# Hematopoietic stem cells for bone marrow transplantation not manipulated for homologous use



**Apheresis**



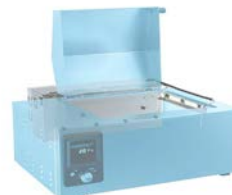
**Cell therapy unit**



**Non substantial  
manipulations**



**Administration**



**Thawing and washing**



# Stromal Vascular Fraction



- ✓ Autologous, non-manipulated lipoaspirate containing adipocytes and stromal vascular fraction
- ✓ intended to act as a natural autologous lipofiller
- ✓ **Was classified as Not ATMP in 2012**

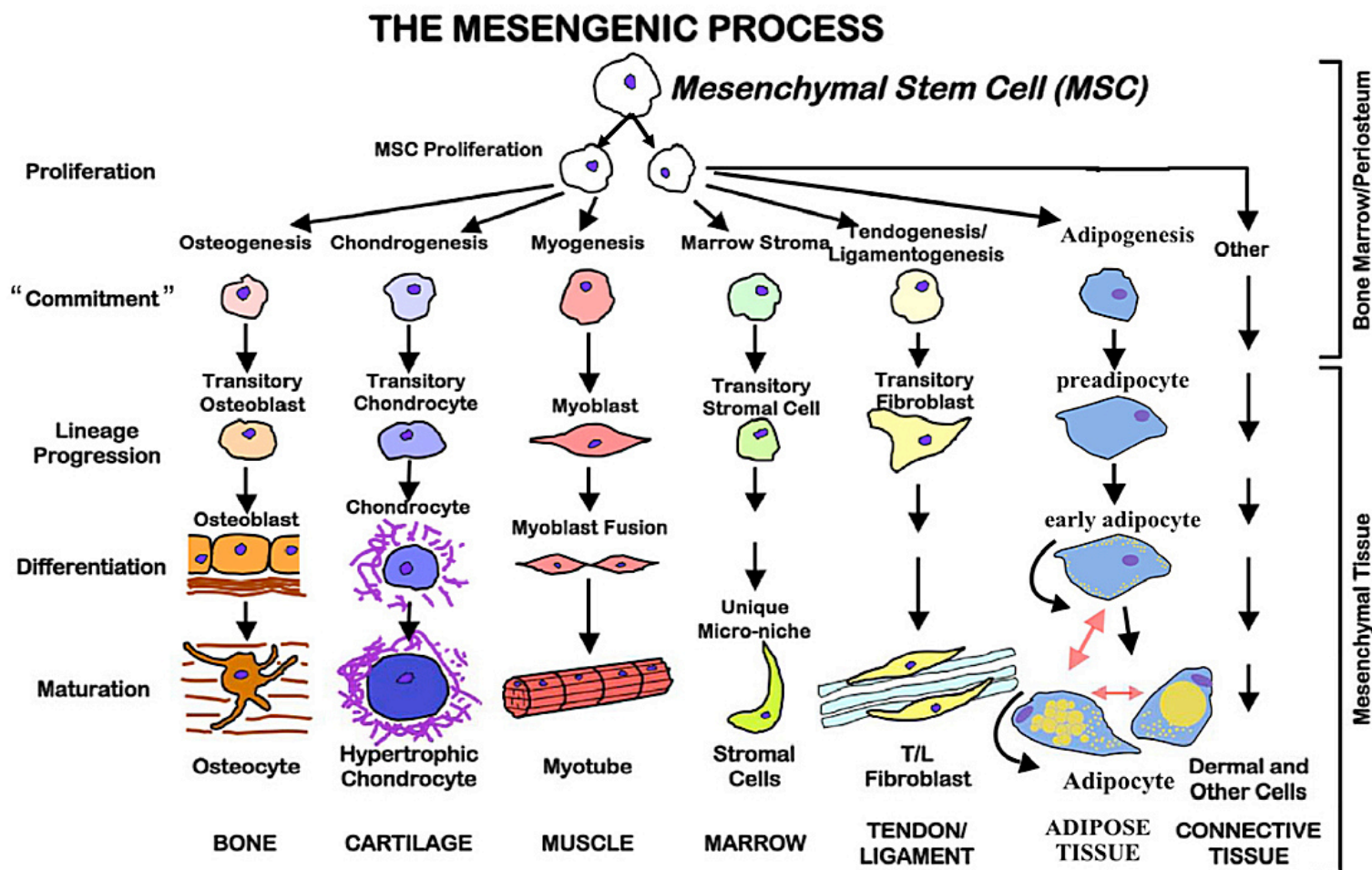
Could be considered now as somatic cell therapy if manufacturing process is considered a substantial manipulation



## Homologous vs/Non homologous use

- **New function**
- The cells or tissues have a different function in donor and recipient
  - **CD34+ cells in heart muscle**
  - **Bone marrow cells for bone of joint healing**

# Homologous vs/Non homologous use







## Non homologous use

- ✓ Bone marrow-derived autologous CD34 cells
- ✓ Intended for improvement of heart function in patients with refractory angina and chronic myocardial ischemia
- ✓ **Tissue-engineered product**
- ✓ 22/03/2012



## Non homologous use

- ✓ Autologous bone marrow cell aspirate in autologous plasma
- ✓ Intended for treatment of osteoarthritis and osteochondral lesion
- ✓ **Now considered as Tissue-engineered product**
- ✓ 28/05/14

**Formerly classified as non ATMP**



## CONCLUSION

- ✓ It is not always easy to define the « same essential function of a cell in a donor and a recipient »
- ✓ The CAT classification is based on existing scientific knowledge of cell biology. Classification may vary according to the evolution of science