

Act 1/2007, of 16th March, by which it is regulated the research on cellular reprogramming exclusively for therapeutical purposes¹

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The President of the Junta de Andalusia (Our Regional Government) proclaims the Act 1/2007, of 16th March, by which it is regulated the research on cellular reprogramming exclusively for therapeutical purposes

Preamble

I.

Article 149.1 of the Spanish Constitution in its 15th epigraph says that the State has exclusive competence over (...) BUSCAR and epigraph 16th of the same Article says (...)

Article 13, paragraph 21st of the Statute of Autonomy for Andalusia (a kind of regional fundamental law ruling our community in some aspects at the same level than the Spanish Constitution) proclaims that the Autonomous Community of Andalusia has exclusive competence in the fields of Health and Hygiene in full respect of what it is said in Article 149.1.16 of the Spanish Constitution. Paragraph 29th of such Article 13 asserts that the Autonomous Community of Andalusia has exclusive competence in researching and in (regulating) their research institution in full respect of what it is said in Article 149.1.15 of the Spanish Constitution.

Act 2/1998 of 15th June, on Health in Andalusia, rules in its Title VIII the matter of medical teaching and researching pointing out that the Public Administration of Andalusia must promote, inside the Andalusian public health care system, any activities of medical research as a fundamental element for its progress.

At the same time, Article 11.4 of the Act 14/2006 of 26th May on techniques of assisted human reproduction allows donation for research purposes of cryogenic pre-embryo and of semen, oocytes and ovary tissue. Article 14th of this Act 14/2006 says that the gamete used in researching process can not have for destination its transfer to women nor the generation of pre-embryo for procreation purposes.

Act 7/2003 of 20th October, by which it is regulated research in Andalusia with human pre-embryos which are not viable for fecundation in vitro, allows this research using pre-embryos which are more than enough in the techniques of fecundation in vitro with the aim of improving the health and quality of life of people. Act 7/2003 also creates the Committee of Researching with human pre-embryo and it is considered the collegiate body entitled by the Consejería de Salud (Andalusian Minister of Health) to authorise the research projects with pre-embryo remaining from techniques of fecundation in vitro within the full respect of legal requirements. It is also envisaged as the organ to guarantee the fulfilment of the conditions for the informed consent of donors is to be considered valid.

Since the entrance into force of those legal dispositions it has been started in Andalusia the research on stem cells by different scientific groups thanks to which we are leading this field.

¹ This is a non official translation into English by Dr. Daniel García San José (dagarcia@us.es)

II.

Stem Cells can come out from organs and adult or foetal tissues or from umbilical cord blood (adult stem cells). Stem cells can have their origin in the inner part of the preimplanted embryo (blastocyst) from the 5th to the 14th day after the ovule has been fecundated (embryonnaire stem cells). Scientific knowledge at disposal presently shows that embryonnaire stem cells have a greater capacity for proliferate and differentiate than adult stem cells and consequently, research is not limited to adult stem cells.

In the latest years different scientific research has managed to get a new source of human stem cells different to that already existing from both adult or embryonnaire origin. Such possibility has been possible thanks to the so called cellular reprogramming, by which a differentiated adult stem cell is forced to go back in its evolutionary process up to change into a pluripotentes cell which itself can change latter into different kinds of cells and eventually into tissues and organs as well. The potential therapeutical implications of these discovers are huge not only for the expectations already generated by researching with stem cells but particularly because the genetic identity which can be obtained from the hypothetical receiver. Thus, it could be possible to eliminate eventual immunological rejections in the regenerative therapies of other origins which condition their final results in a substantive way.

Among the techniques of cellular reprogramming it has achieved a notable development for its feasibility and reproductive capacity the so called nuclear transfer. This technique consists of the transfer of the nucleus of a somatic cell to the cytoplasm of an ovocyte previously enucleated. The process generates, under some circumstances, a reprogramming of the nucleus of the somatic cell which assumes the features of a pluripotentes cell and its immediate division in successive stages, similarly to a pre-embryo in stage of blastocyst. From that point on, it is possible to get stem cells with the genetic features of the somatic cells whose nucleus was inserted into the ovocyte. The differentiation of these stem cells in different cellular lines could allow in future, just in case research progresses duly, to using these cells or tissues for replacing those ones irreversibly damaged by a degenerative illness by working with a cell from the same person.

III.

Additional Protocol of 12th January 1998, to the Convention for the protection of human rights and human dignity regarding applications of Biology and Medicine, ratified by Spain the 7th January 2000, forbids human cloning and Article 160.3 of the Spanish Penal Code consider illegal to create human beings by way of cloning or other process intended to select the race. Consequently, these techniques or any other ones with the purpose of reproductive cloning are expressly forbidden by our juridical order and furthermore are ethically unacceptable. On the contrary, research with techniques of cellular reprogramming with therapeutical aims can provide substantive achievements in the reaching on cellular therapy and on regenerative medicine.

The Autonomic Commission on Ethic and Medical Research in Andalusia redacted an opinion favourable to the biomedical research by way of nuclear transfer with therapeutical purposes, where it was asked from the Andalusian Government for the

development of the regulatory normativity for being possible these techniques of researching.

Considering all previously said, in order to push this kind of researching and with the purpose of giving juridical security to scientific people willing to do research with such techniques in Andalusia, this Act regulates the use of processes of cellular reprogramming of human somatic cells with exclusive therapeutical purposes and under strict conditions of authorisation and under scientific, ethical and social control.

It is also created by this Act the Committee of researching on cellular reprogramming as the organ entitled to authorise and to guarantee that all research projects using these techniques are according to the requirements established in this Act.

Article 1. Object.

The object of this Act is:

- a) to regulate the research in the Autonomous Community of Andalusia throughout the use of techniques of cellular reprogramming in human somatic cells, in order to change them into pluripotent stem cells with exclusive therapeutical purposes.
- b) To create the Committee of Researching on Cellular Reprogramming.

Article 2. Definitions.

As far as this Act is concerned, it is understood that

- a) somatic cell is a cell from the body which is distinct to the ovule or the spermatozoid;
- b) pluripotent stem cells are immature cells having the possibility to mature generating a wide range of blood cells and tissues;
- c) fecundation is the process by which it is created a zygote egg cell resulting from the fusion of a male and a female gametes from the interaction of an spermatozoid and an ovocyte;
- d) cellular reprogramming is a technique by which a differentiated adult cell is forced to go back in its evolutionary process up to change into a pluripotent cell which can later change into different kinds of cells, tissues or even organs;
- e) nuclear transfer is a technique of cellular reprogramming consisting of the transfer of the nucleus of a somatic cell to the cytoplasm of an ovocyte previously enucleated;
- f) somatic pre-embryo is a group of cells resulting from successive division of the cellular form created throughout techniques of cellular reprogramming, like the nuclear transfer or other similar techniques, from the moment such a technique is applied and up to fourteen days after;
- g) informed consent is a statement of free and conscious will validly given by a person with capacity to give it, or by its authorised representative whenever it has been given after receiving proper information;
- h) traceability is the capacity to associate any biological material with information registered concerning any step in its process of creation.

Article 3. Authorisation and registry of research projects.

1. Researching throughout the use of techniques of cellular reprogramming in human somatic cells with the purpose of its change into pluripotent stem cells, will be done on the basis of a research project which must be of scientific interest and lacking any lucrative aim.
2. Any research project will need the authorisation of the Committee of Research on cellular reprogramming. For this be given, it will be necessary to prove that the project purpose is to improve health and quality of people's life.
3. It only will be authorised researching with techniques of reprogramming in human somatic cells for the purposes specifically envisaged in this Act and the somatic pre-embryo must be destroyed in the limit of the fourteenth day after the implementation of such technique.
4. Authorisation will be exclusively given for each project and it will determine at least the identity of the leading researcher and of the rest of researchers taking part in the project and the number and origin of the ovules and somatic cells to be used in the research project.
5. Authorisation of the project will also need the previous and favourable opinion of the Autonomic Commission on Ethics and Health Research.
6. Projects of research which had been authorised will be registered in a data base where at least it will be included data concerning the cells used together with basic information, the name and working position of the leading researcher, a brief summary of the object of the research, the conditions ruling it, the number of cells used, the date of the authorisation of the project and how long it will be authorised for and, in any case, it will also include the certificate of the date, the way and the person responsible of the destruction of the somatic pre-embryo before the fourteenth day.

Article 4. Interdiction of reproductive use.

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According to Additional Protocol to the Convention of 4th April 1997 for the protection of human rights and dignity of the human being with respect to applications of biology and medicine, by which it is forbidden cloning human beings, this Act forbids researching with techniques of cellular reprogramming with somatic cells to generate pre-embryos with reproductive purposes. It is also forbidden researching with these techniques for any other purpose apart from that authorized in this Act.

Article 5. Donation.

1. For carrying on with the researching envisaged in this Act it will be necessary the previous donation of the ovules and of the somatic cells.
2. Donation will always be anonymous and it must be guaranteed the confidentiality and security of data concerning identity and personal data of those donors, according to what it is established in the current legislation into force concerning protection of data of personal nature.
3. Those who donate must be legal aged people (18 years old) with full capacity of acting. In case of minors or handicapped it will be needed the consent of their legal representatives.
4. Donation will never have lucrative or commercial nature. Economic compensation eventually consigned to compensate donors for their physical disturbances or for travelling or working nuisance which can

derive from donation never can be such up to be considered an economic incentive for donors.

5. Donation entails donors' rejection to receive any right of economic or of any other kind over the eventual results which derive direct or indirectly from the research project with the material donated.

Article 6. Informed consent of donors.

1. Donors, previously to the act of donation, must have been fully informed about the following points:
 - a) identity of the researcher responsible of the research project;
 - b) purpose of the research project and expected benefits;
 - c) nature, extent and duration of the processes to be employed, particularly those processes affecting the participation of donors;
 - d) their right to access to the relevant results for his/her health, according to the medical scientific knowledge;
 - e) his/her right to cancel consent at any moment;
 - f) guarantee of privacy of data;
 - g) sources of financing the research project.
2. Once donors have received all information above indicated they must give written consent which can be cancelled and changed. People or entities having received such consent will put at disposal (of any donor) measures necessary for the effective exercise of their right to cancel consent.

Article 7. Research Centres.

Researching envisaged in this Act can only be developed in those Research Centres specifically authorised to that aim by competent Health Authority and they will be subjected to the processes of accreditation established by such Authority.

Article 8, Committee of Researching on Cellular Reprogramming.

1. It is created the Committee of Researching on Cellular Reprogramming as a collegiate organ dependent of the Conserjería de Salud of the Junta de Andalusia.
2. Their functions are the following ones:
 - a) to authorise research projects with techniques of cellular reprogramming of human somatic cells for their change into pluripotent stem cell, which respect the requirements established in this Act. To this aim, it will be considered relevant for authorisation the methodological, ethical and legal aspects of the research project and the qualification of the leading researcher and the team of researchers.
 - b) To maintain the Registry of authorised projects which it will be of public access.
 - c) To look for the accomplishment with conditions of authorisation and with other provisions included in this Act.
 - d) To control the Registry of authorised research projects.

- e) To guarantee the accomplishment of conditions for the valid informed consent of donors and the confidentiality and security of their personal data.
 - f) To cancel provisionally the authorisation for a research project when that is not observing the requirements established in this Act.
 - g) Any other competences which can be assigned to this organ by the Council of Government (of the Junta of Andalusia).
3. By way of Regulation it will be determined the organization and the composition of the Committee, counting on reputed people in the fields of Biomedicine, Law and Bioethics.

Article 9. Disposal of results.

1. Once the research project has concluded the leading researcher will prepare a brief report of it for the Committee of Research on Cellular Reprogramming and for the Autonomic Commission of Ethic and Medical Research.
2. The results of the researching affecting to individual circumstances of any person having taken part (in the research project) must be communicated to them when they ask for it.
3. Researchers must make public the general results of the research projects once they have concluded, respecting the requirements concerning the personal data of donors, according to what is established in the current legislation into force in the matter of protection of personal data and notwithstanding the intellectual and industrial property rights which could be derived from the research.

Unique transitory disposition. Donation of cryogenic ovules already existent.

As far as the cryogenic ovules already existent previously to the entrance into force of this Act, women from whom they come from will be asked for they expressing their undoubted will of donating them for researching, according to what it is said in paragraph 2 of Article 6 of this Act.

Unique derogative disposition. Normative erasure.

Any legal disposition of equal or lower hierarchy in comparison with this Act is derogated as far as it is in contradiction.

Unique final disposition.

The Council of Government is entitled to produce any disposition necessary to develop this Act.

In Seville, 16th March 2007.