

TECHNOLOGY TRANSFER LICENSING OPPORTUNITIES



Fondazione IRCCS
Ca' Granda
Ospedale Maggiore
Policlinico

Sistema Socio Sanitario



Regione
Lombardia

MALE CELLS SPECIFIC ANTIBODY

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Applications:

- Male cells identification and selection.
- Non invasive prenatal diagnosis of X-linked diseases.



Key benefits:

- Overcome the lack of specific fetal marker for the unambiguous identification of (male) fetal cells circulating in the maternal blood.
- Improve the isolation of (male) fetal cells for the non-invasive prenatal diagnosis.
- Avoid miscarriages associated to conventional invasive diagnostic procedures (chorionic villus sampling and amniocentesis).



Offer:

- Licensing out.
- Co-Development.



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INVENTION

A new monoclonal antibody that specifically identifies the male ribosomal protein RPS4Y1 and distinguishes male from female cells.

BACKGROUND

Prenatal diagnosis can be very important for pregnant women carriers of X-linked recessive congenital disorders, such as Haemophilia, Fragile X syndrome or Duchenne muscular dystrophy. In case of a male foetus at risk, conventional invasive diagnostic procedures such as chorionic villus sampling and amniocentesis, with an associated risk of miscarriage, are used to identify in foetuses the maternally inherited genetic defect. The availability of a non-invasive prenatal diagnosis test that can safely identify the affected male foetuses in the early period of gestation is still an unsolved problem, due to the poor circulating DNA quantity, the high maternal DNA contamination, and the lack of specific foetal markers.

TECHNOLOGY

The developed monoclonal antibody specifically bind the RPS4Y1 protein, a gender (male) biomarker, synthesized by a gene localized in the Y chromosome. The identification of that protein in biological samples, especially in blood, could overcome the current limit of lack of specific foetal markers and could improve the identification of foetal cells by targeting any type of male cells circulating in the maternal blood, thus allowing the development of a rapid and non-invasive method to select male cells for the genetic analysis. The antibody is proposed to be used in prenatal diagnostic tests of X-linked disorders to isolate male foetal cells from a blood sample taken from the mother since the early weeks of pregnancy.

INVENTORS

Flora Peyvandi, Silvia Spena.

INTELLECTUAL PROPERTY RIGHTS

Patent granted in Italy. Patent pending in USA. PCT application filed.

OFFER

Licensing out & co-development.

CONTACT

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