A Phase I Clinical Trial of CART cell therapy for refractory/ relapsed acute lymphoblastic leukemia with unmet needs in children, adolescents and young adults: feasibility and safety study (REALL_CART)

Estado	**Tipo de Participantes**	**Rangos de Edad**
Reclutando	Sujetos incapaces de otorgar consentimiento	Menores de 18 , Adultos (18-64 años)
Género	**Fases**	**Participantes esperados**
Ambos	Fase I	10
Resultados	**Bajo nivel intervención**	**Enfermedad rara**
Sin resultados	No	No
Cobertura geográfica	**Ámbitos del ensayo**	**Terapia avanzada**
Unicéntrico nacional	seguridad	NO

Información

Identificador
2023-509723-41-01 (CTIS)

Cod. Protocolo
REALL_ CART

Área terapéutica
Enfermedades [C] - Cáncer [C04]|

Enfermedad investigada
Refractory/ relapsed acute lymphoblastic leukemia in children, adolescents and young adults.

Título Científico
A Phase I Clinical Trial of CART cell therapy for refractory/ relapsed acute lymphoblastic leukemia with unmet needs in children, adolescents and young adults: feasibility and safety study (REALL_CART).

Justificación

No aportado

Objetivo Principal

In this umbrella trial, we will determine in parallel within independent cohorts:
1- The safety and feasibility of autologous CART-19/22 in children, adolescents and young adults with a CD19+/- CD22+/- relapse/ refractory disease for a r/r B cell precursor ALL.
2- The safety and feasibility of allogeneic CART-NKG2D T in children, adolescents and young adults with r/r T-ALL.

Variables de Evaluación Primaria

In this umbrella trial, we will determine in parallel within independent cohorts: 1- The safety and feasibility of autologous CART-19/22 in children, adolescents and young adults with a CD19+/- CD22+ relapse/ refractory disease for a r/r B-ALL. 2- The safety and feasibility of allogeneic CART-NKG2D T in children, adolescents and young adults with r/r T-ALL.

Momentos temporales de evaluación primaria

No aportado

Objetivo Secundario

Expression of CD19/CD22 and NKG2DL on primary B- and T- ALL, respectively.
Persistence of CART19/22 and CARTs-NKG2D cells in patients samples (peripheral blood, bone marrow and cerebrospinal fluid (if available).
Peripheral blood cytokine profile from the patients serum (weekly until evaluation).
Identify the DNA methylation profile of NKG2DL (MICA, MICB AND ULBPs 1-3) in primary T-cell malignancies samples.
Evaluate the presence of soluble NKG2DL and ANTI-MICA antibodies in the serum of patients under CART-NKG2D therapy.
Overall rate response in both arms

Variables de Evaluación Secundaria

Expression of CD19/CD22 and NKG2DL on primary B- or T- cell ALL, respectively.
Persistence of CART19/22 and CARTs-NKG2D cells in patients samples (peripheral blood, bone marrow, cerebrospinal fluid).
Peripheral blood cytokine profile from the patients serum.
Identify the DNA methylation profile of NKG2DL (MICA, MICB AND ULBPs 1-3) in primary T-cell malignancies samples.
Evaluate the presence of soluble NKG2DL and ANTI-MICA and ANTI-MICB antibodies in the serum of patients under CART-NKG2D therapy.

Overall rate response in both arms.

Momentos temporales de evaluación secundaria

No aportado

Criterios de Inclusión

Age: Patients <30 years at diagnosis and/or relapse. Lansky (age <16 years) or Karnofsky (age 16 years) score of 50 or greater. Life expectancy greater than 12 weeks. Absolute neutrophil count (ANC) 500/L unless, in the opinion of the investigator, cytopenia is due to underlying leukemia and is potentially reversible with leukemia therapy. Platelet count 50,000/L unless, in the opinion of the investigator, cytopenia is due to underlying leukemia and is potentially reversible with leukemia therapy. Absolute lymphocyte count 100/L. Adequate renal, hepatic, pulmonary, and cardiac function. Adequate venous access and absence of contraindications for lymphoapheresis. Patients with a seizure disorder may be enrolled if well controlled with anticonvulsants. Patient or patient's legal representative, parent(s), or guardian able to provide written informed consent. Diagnosis: o ARM A: CD19+/- CD22+ B-ALL with relapsed or refractory disease not responding to conventional chemotherapy and with no other curative therapy available. Treatment with previous CART CD19 therapy is permitted, but is not mandatory. / o ARM B: T-ALL with relapsed or refractory disease not responding to conventional chemotherapy and with no other curative therapy available. Patients diagnosed with ALL must be suitable for allogeneic HSCT and willing to proceed to transplant if the CART treatment induces complete remission and the investigator believes it is the best option. For ARM B there must be a suitable haploidentical donor (following local SOP).

Criterios de Exclusión

Enrolled in another clinical trial in the previous 4 weeks. Active infection requiring systemic medical therapy including clinically significant viral infection or uncontrolled viral reactivation of EBV, CMV, adenovirus, BK-virus, HHV-6 or Aspergillus. Any of the following cardiac criteria: cardiac echocardiography with LVSF<30% or LVEF<40%; or clinically significant pericardial effusion. Presence of CNS-3 disease or uncontrolled seizure disorder. Active immunosuppressive therapy with the exception of prednisone 10 mg/day (or equivalent), within 7 days prior to enrolment. GFR <30 ml/min or bilirubin >3 times the upper limit of normality (unless due to Gilbert's syndrome). Any other condition that, in the opinion of the PI, may interfere with the efficacy and/or safety evaluation of the trial. Pregnant or lactating women. Sexually active patients must be willing to utilize one of the more effective birth control methods for at least 12 months after the infusion and until CAR-T cells are no longer present on two consecutive tests. Male partner should use a condom. Women of child-bearing potential are defined as all women physiologically capable of becoming pregnant. Highly effective contraception methods include, as defined by the CTFG recommendations (available at h t t p s : / / w w w . h m a . e u / f i l e a d m i n / d a t e i e n / H u m a n _ M e d i c i n e s / 0 1 -About_HMA/Working_Groups/CTFG/2014_09_HMA_CTFG_Contraception.pdf): o Combined (estrogen and progestogen containing) hormonal contraception associated with inhibition of ovulation (oral, intravaginal, transdermal) o Progestogen-only hormonal contraception associated with inhibition of ovulation (oral, injectable, implantable) o Intrauterine device (IUD) o Intrauterine hormone-releasing system o Bilateral tubal occlusion o Vasectomized partner (provided that partner is the sole sexual partner of the trial participant and that the vasectomized partner has received medical assessment of the surgical success) o Sexual abstinence (only if defined as refraining from heterosexual intercourse during the entire period of risk associated with the study treatments. The reliability of sexual abstinence needs to be evaluated in relation to the duration of the clinical trial and the preferred and usual lifestyle of the subject). Sexually active males should use a condom during intercourse for at least 12 months after the infusion and until CAR-T cells are no longer present on two consecutive tests.

Calendario

(Última actualización: 13/02/2026)

Autorización	Inicio de Ensayo	Inclusión Primer Paciente	Interrumpido	Reiniciado
19/11/2024	16/06/2025	08/07/2025	No aportado	No aportado

Fin de reclutamiento	Fin prematuro (España)	Fin prematuro (Global)	Fin del ensayo en España	Fin del ensayo global
No aportado	No aportado	No aportado	No aportado	No aportado

Promotor

Fundacion Para La Investigacion Biomedica Del Hospital Universitario La Paz Spain

Paseo Castellana 261

Contact Person

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Monetary support: N/A

Tipo de promotor: Comercial

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Centros

Activo (16/06/2025)

Hospital Universitario La Paz

Madrid

MADRID

Hemato-Oncology

Medicamentos

CART45RA-NKG2D CELLS
INTRAVENOUS INFUSION
INTRAVENOUS INFUSION

-

Principios Activos: N/A

Experimental

CART 19/22 T CELLS
INTRAVENOUS INFUSION
INTRAVENIOUS INFUSION

-

Principios Activos: N/A

Experimental

Sin resultados

A Phase I Clinical Trial of CART cell therapy for refractory/ relapsed acute lymphoblastic leukemia with unmet needs in children, adolescents and young adults: feasibility and safety study (REALL_CART)

State	**Type of participants**	**Age Ranges**
Recruiting	Incapable subjects of giving consent	Less than 18 , Adults (18-64 years)
Gender	**Phases**	**Expected Participants**
Both	Phase I	10
Results	**Low level of intervention**	**Rare disease**
No results	No	No
Geographic coverage	**Areas of the study**	**Advanced therapy**
National One-center	safety	NO

Information

Identifier
2023-509723-41-01 (CTIS)

Protocol Code
REALL_ CART

Therapeutic area
Diseases [C] - Cancer [C04]|

Investigated Disease
Refractory/ relapsed acute lymphoblastic leukemia in children, adolescents and young adults.

Scientific Title
A Phase I Clinical Trial of CART cell therapy for refractory/ relapsed acute lymphoblastic leukemia with unmet needs in children, adolescents and young adults: feasibility and safety study (REALL_CART).

Rationale

Not provided

Main Objective

In this umbrella trial, we will determine in parallel within independent cohorts:
1- The safety and feasibility of autologous CART-19/22 in children, adolescents and young adults with a CD19+/- CD22+/- relapse/ refractory disease for a r/r B cell precursor ALL.
2- The safety and feasibility of allogeneic CART-NKG2D T in children, adolescents and young adults with r/r T-ALL.

Primary Endpoints

In this umbrella trial, we will determine in parallel within independent cohorts: 1- The safety and feasibility of autologous CART-19/22 in children, adolescents and young adults with a CD19+/- CD22+ relapse/ refractory disease for a r/r B-ALL. 2- The safety and feasibility of allogeneic CART-NKG2D T in children, adolescents and young adults with r/r T-ALL.

Temporary moments of secondary assessment

Not provided

Secondary Objective

Expression of CD19/CD22 and NKG2DL on primary B- and T- ALL, respectively.
Persistence of CART19/22 and CARTs-NKG2D cells in patients samples (peripheral blood, bone marrow and cerebrospinal fluid (if available).
Peripheral blood cytokine profile from the patients serum (weekly until evaluation).
Identify the DNA methylation profile of NKG2DL (MICA, MICB AND ULBPs 1-3) in primary T-cell malignancies samples.
Evaluate the presence of soluble NKG2DL and ANTI-MICA antibodies in the serum of patients under CART-NKG2D therapy.
Overall rate response in both arms

Secondary Endpoints

Expression of CD19/CD22 and NKG2DL on primary B- or T- cell ALL, respectively.
Persistence of CART19/22 and CARTs-NKG2D cells in patients samples (peripheral blood, bone marrow, cerebrospinal fluid).
Peripheral blood cytokine profile from the patients serum.
Identify the DNA methylation profile of NKG2DL (MICA, MICB AND ULBPs 1-3) in primary T-cell malignancies samples.
Evaluate the presence of soluble NKG2DL and ANTI-MICA and ANTI-MICB antibodies in the serum of patients under CART-NKG2D therapy.

Overall rate response in both arms.

Temporary moments of secondary assessment

Not provided

Inclusion criteria

Age: Patients <30 years at diagnosis and/or relapse. Lansky (age <16 years) or Karnofsky (age 16 years) score of 50 or greater. Life expectancy greater than 12 weeks. Absolute neutrophil count (ANC) 500/L unless, in the opinion of the investigator, cytopenia is due to underlying leukemia and is potentially reversible with leukemia therapy. Platelet count 50,000/L unless, in the opinion of the investigator, cytopenia is due to underlying leukemia and is potentially reversible with leukemia therapy. Absolute lymphocyte count 100/L. Adequate renal, hepatic, pulmonary, and cardiac function. Adequate venous access and absence of contraindications for lymphoapheresis. Patients with a seizure disorder may be enrolled if well controlled with anticonvulsants. Patient or patient's legal representative, parent(s), or guardian able to provide written informed consent. Diagnosis: o ARM A: CD19+/- CD22+ B-ALL with relapsed or refractory disease not responding to conventional chemotherapy and with no other curative therapy available. Treatment with previous CART CD19 therapy is permitted, but is not mandatory. / o ARM B: T-ALL with relapsed or refractory disease not responding to conventional chemotherapy and with no other curative therapy available. Patients diagnosed with ALL must be suitable for allogeneic HSCT and willing to proceed to transplant if the CART treatment induces complete remission and the investigator believes it is the best option. For ARM B there must be a suitable haploidentical donor (following local SOP).

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Enrolled in another clinical trial in the previous 4 weeks. Active infection requiring systemic medical therapy including clinically significant viral infection or uncontrolled viral reactivation of EBV, CMV, adenovirus, BK-virus, HHV-6 or Aspergillus. Any of the following cardiac criteria: cardiac echocardiography with LVSF<30% or LVEF<40%; or clinically significant pericardial effusion. Presence of CNS-3 disease or uncontrolled seizure disorder. Active immunosuppressive therapy with the exception of prednisone 10 mg/day (or equivalent), within 7 days prior to enrolment. GFR <30 ml/min or bilirubin >3 times the upper limit of normality (unless due to Gilbert's syndrome). Any other condition that, in the opinion of the PI, may interfere with the efficacy and/or safety evaluation of the trial. Pregnant or lactating women. Sexually active patients must be willing to utilize one of the more effective birth control methods for at least 12 months after the infusion and until CAR-T cells are no longer present on two consecutive tests. Male partner should use a condom. Women of child-bearing potential are defined as all women physiologically capable of becoming pregnant. Highly effective contraception methods include, as defined by the CTFG recommendations (available at h t t p s : / / w w w . h m a . e u / f i l e a d m i n / d a t e i e n / H u m a n _ M e d i c i n e s / 0 1 -About_HMA/Working_Groups/CTFG/2014_09_HMA_CTFG_Contraception.pdf): o Combined (estrogen and progestogen containing) hormonal contraception associated with inhibition of ovulation (oral, intravaginal, transdermal) o Progestogen-only hormonal contraception associated with inhibition of ovulation (oral, injectable, implantable) o Intrauterine device (IUD) o Intrauterine hormone-releasing system o Bilateral tubal occlusion o Vasectomized partner (provided that partner is the sole sexual partner of the trial participant and that the vasectomized partner has received medical assessment of the surgical success) o Sexual abstinence (only if defined as refraining from heterosexual intercourse during the entire period of risk associated with the study treatments. The reliability of sexual abstinence needs to be evaluated in relation to the duration of the clinical trial and the preferred and usual lifestyle of the subject). Sexually active males should use a condom during intercourse for at least 12 months after the infusion and until CAR-T cells are no longer present on two consecutive tests.

Calendar

(Last Update: 13/02/2026)

Authorization	Start of Trial	First patient inclusion	Halted	Restarted
19/11/2024	16/06/2025	08/07/2025	Not aported	Not aported

End of recruitment	Premature end (Spain)	Premature End (Global)	Trial end (Spain)	Trial end (Global)
Not aported	Not aported	Not aported	Not aported	Not aported

Sponsor

Fundacion Para La Investigacion Biomedica Del Hospital Universitario La Paz Spain

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Contact Person

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Monetary support: N/A

Sponsor type: Commercial

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Sites

Active (16/06/2025)

Hospital Universitario La Paz

Madrid

MADRID

Hemato-Oncology

Medication

CART45RA-NKG2D CELLS
INTRAVENOUS INFUSION
INTRAVENOUS INFUSION

-

Active Principles: N/A

Experimental

CART 19/22 T CELLS
INTRAVENOUS INFUSION
INTRAVENIOUS INFUSION

-

Active Principles: N/A

Experimental

No results