Contract
concerning

scientific collaboration *under the (short) title*

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between

the **Universitätsklinikum Tübingen, on behalf of Eberhard Karls Universität Tübingen, Medizinische Fakultät, Radiologische Klinik,** represented in law by the Legal Department of University WSIC Tübingen

Institution/Department: **Abt. Präklinische Bildgebung und Radiopharmazie**

Project Manager: Prof. Dr. Andre f. Martins and PD Dr. Manfred Kneilling

Address: Röntgenweg 13, 72076 Tübingen

on behalf of the **Eberhard Karls University Tübingen, Medical Faculty**

- hereinafter referred to as the **WSIC** -

and
the company

HELIX BIOPHARMA CORP. having an office at Suite 2704, 401 Bay Street, Toronto, ON M5H 2Y4, Canada

– hereinafter referred to as the Company –

Preliminaries

The university clinic has gained experience and knowledge in the area of molecular imaging. In particular, research will be conducted to develop advanced metabolic imaging studies using PET/MRI technology to assess the associated metabolic acidity in cancer tissues in vivo. The WSIC will conduct also research with defined animal models, cell engineering methods and combinatorial immunotherapies by which the researchers involved acquired extensive expertise. Furthermore radiolabelling methods will also be employed to track the proteinaceous L-DOS47
The University and the Company are collaborating to assess the therapeutic response of L-DOS47 in several cancer models expressing CECAM6, with advanced preclinical metabolic imaging.

The Company conducts *research into neutralization and modulation of the extracellular acidity in solid tumour expressing CECAM6.*
The parties hereto expect this collaboration to result in new and additional insight *into* the therapeutic response of L-DOS47 in several cancer models expressing CECAM6, with advanced preclinical metabolic imaging. The parties hereto enter into the following agreement:

1. Subject matter of the contract

The University and the Company are collaborating to assess the therapeutic response of L-DOS47 in several cancer models expressing CECAM6, with advanced preclinical metabolic imaging research shall be based on the work schedule enclosed as **Annex A**, this schedule constituting an integral part of this Contract.

2. Conduct of the research; Project Managers

(1) The research shall be conducted in accordance with the relevant laws and guidelines/provisions (e.g., on genetic engineering, animal protection, radiation protection etc.). Any necessary registrations/approvals are to be made/obtained in good time.

(2) Each party hereto shall appoint a Project Manager. The Project Managers shall be responsible for the orderly performance of the work pursuant to sec. 1 of this Contract.
The Project Managers appointed at the WSIC are Prof. Dr. Andre F. Martins and PD Dr. Manfred Kneilling. The person appointed as Project Manager by the Company is Dr. Christof Böhler.

(3) In the event that one of the Project Managers should leave during the term of the Contract or should be relieved of his duties as Project Manager for a different reason, an employee equally qualified to conduct the research may be appointed as his successor after the other party hereto has been notified. If this is not possible or if the other party hereto has good grounds for not agreeing to the appointed successor, the Contract may be terminated early for good cause.

(4) The parties hereto shall meet at regular intervals to report on the progress of the project and to clarify any issues that have arisen. The time, place, and participants shall be determined by the Project Managers. The Project Managers shall ensure that reports are drawn up on the progress and results of research. The number and length of these reports shall be determined by the Project Managers by mutual agreement.

(5) The WSIC shall provide its basic equipment for the realization of the project pursuant to sec. 1.

(6) During the *.....2.(two).....--year* term of the Contract, the Company shall provide a total of *€ 900.000* (plus any statutory value-added tax). The materials made available by the Company in performance of this Contract constitute grants for the performance of the WSIC's research work.

3. Pre-existing intellectual property

(1) Each party hereto has and shall retain ownership of its intellectual property (both protected and unprotected) existing at the time this Contract is concluded.

(2) Each party hereto shall grant the other party a non-exclusive right of use of this preexisting intellectual property free of charge to the extent that this is absolutely necessary and required for the execution of the Contract and provided that there are no third-party rights precluding such right of use.

(3) Insofar as preexisting intellectual property of the WSIC is required for commercialization of the study results, the Company shall be granted a non-exclusive right of use on the terms and conditions considered customary in the industry, provided that there are no third-party rights precluding such right of use. Details thereto shall be agreed between the parties in a separate agreement.

(4) Insofar as the parties hereto are aware of third-party rights, they shall notify the other party without delay.

4. Rights to the research results

Each party hereto shall be entitled to the results that it obtains in the course of the project (which may or may not be the subject of industrial property rights). Jointly obtained research results shall belong to the parties hereto jointly on a prorated basis according to the share obtained by each party.

5. Rights of use of research results that may not be the subject of industrial property rights

Each party hereto shall be granted a non-exclusive, irrevocable right of use, free of charge without any time limitation, to the research results to which the other party is entitled that may not be the subject of industrial property rights. Insofar as research results of the WSIC that may not be the subject of industrial property rights are necessary for commercialization, the Company shall, if it so requests, be granted an exclusive right of use on the terms and conditions considered customary in the industry. Details thereto shall be agreed between the parties in a separate agreement. In this event, the WSIC shall retain a right of use of the research results free of charge for non-commercial scientific purposes.

6. Research results that may be subject to industrial property rights

(1) In the event that employee inventions arise in connection with the performance of this research project, the inventors shall notify their employer (WSIC: Legal Department) in writing pursuant to the Employee Invention Act (*Arbeitnehmererfindungsgesetz*). This shall not apply to university inventors who claim reliance on the negative rights of publication pursuant to s. 42 of the Employee Invention Act on the basis of the freedom of academic teaching and research. The parties hereto shall inform one another in writing without delay of notification of inventions.

(2) In the event of *joint inventions*, the parties hereto shall consult one another without delay on the further action to be taken, in particular regarding the protection of industrial property rights, and shall record the results in writing in a report. Industrial property rights for joint inventions shall be registered under the name of both parties hereto. The patent costs shall be borne by both parties in proportion to the share obtained by each party. In the event of joint inventions, each party hereto may only dispose of (e.g., grant licenses, sell) the invention/joint industrial property right with the prior written approval of the other party hereto. Such approval may not be refused without cause.

(3) If a party hereto refrains from registering and/or maintaining an industrial property right or part of an industrial property right, it shall first offer said right to the other party. The other party shall declare no later than 8 weeks after receipt of this offer whether it wishes to accept it. All costs incurred after this right has been acquired, including remuneration of the inventor(s), shall be charged solely to the acquiring party.

(4) **Independent inventors** involved in the project (e.g., undergraduates, doctoral students) shall undertake, before their collaboration on the project begins, to give notification of and to transfer their rights to any inventions.

7. Use of research results that may be the subject of industrial property rights

(1) For research results obtained solely at the WSIC that may be the subject of industrial property rights, the Company shall be granted the right of first negotiation on a non-exclusive or exclusive license upon notification of the invention. Details thereto shall be agreed and laid down by the parties in a separate and additional agreement under appropriate terms and conditions considered customary in the industry.

(2) For joint research results that may be the subject of industrial property rights, the Company shall be granted a right of first negotiation on the non-exclusive or exclusive right of use for commercialization. Details thereto shall be agreed and laid down by the parties in a separate and additional agreement under appropriate terms and conditions considered customary in the industry, taking account of the contribution to the invention made by each party.

(3) Within eight (8) weeks after receipt of the notification pursuant to sentence 3 of sec. 6(1), the Company shall declare in writing whether or not it intends to exercise the right of first negotiation (pursuant to para. 1 or para. 2). If the Company opts to exercise said right, the Company shall assume the costs of any measures required to secure and safeguard the rights (e.g., patent application establishing priority with the German Patent Office). The right of first negotiation shall exist for a maximum period of 8 (eight) months beginning from the date the notification is received by the Company. If no agreement is reached within this period, the WSIC may utilize the invention on its own discretion. However, in this event, the Company shall be entitled to be granted the rights by making an equal offer before they are granted to a third party.

(4) For inventions evolving solely at the Company, the WSIC shall be granted a right of use free of charge for non-commercial scientific purposes.

(5) If an invention is made, the parties hereto undertake to conduct the negotiations expediently and constructively. The parties hereto undertake to take the actions required to safeguard their respective interests, particularly any decision regarding a patent application, such that the (short) periods allowed by the Employee Invention Act are observed and maintained. The parties hereto are aware that university inventors, as stipulated in sec. 42 of the Employee Invention Act, are normally entitled to disclose an employee invention two months after notice of the intention of disclosure has been given.

8. Terms and conditions considered customary in the industry

In connection with research results that may be the subject of industrial property rights, terms and conditions considered customary in the industry shall be taken to mean the license rates typical in the industry, taking account of the inventor's share in each case. In connection with research results that may not be the subject of industrial property rights or for research results for which an industrial property right does not arise or is of short duration, half the license fee typical in the industry shall apply. The party commercializing the results shall bear the costs and expenses of commercialization (e.g., marketing and distribution) itself.

9. Publications

(1) The parties hereto shall be entitled to publish the research results by mutual agreement. The Company acknowledges the fundamental right of publication held by the university partner. The researchers from the WSIC who are mainly performing the studies will be the first authors of the manuscript. The WSIC researchers responsible for the study design and supervising the entire research project will be listed as the senior or corresponding authors of the manuscript according to the rules of Good Scientific Practice to authorship of the German Research Foundation. A manuscript of any intended publication or talk must be submitted to the other party hereto for scrutiny at the latest 30 (thirty) days prior to the planned publication to allow the other party to prepare a comment on the publication. Proposals for changes and modifications shall be taken into consideration unless said proposals interfere with the scientific nature or the neutrality of the publication. If and only if required in order to protect intellectual property rights, the parties hereto may, in exceptional cases, demand postponement of the publication for a maximum of 90 days after receipt of the manuscript. If no objection has been lodged within 30 (thirty) calendar days after surrender of the manuscript, approval for publication shall be deemed to have been given.

10. Confidentiality

(1) The parties hereto undertake to maintain secrecy and confidentiality with respect to all business secrets and to information, documents and experience of the other party which they acquire knowledge of in connection with this Contract and which are marked as confidential or which are to be treated as confidential on the basis of the circumstances, and shall only disclose such information to third parties to the extent absolutely required for the performance of this Contract, this obligation surviving the term of the contract for a period of five years.

(2) The duty to maintain secrecy shall not apply if it can be demonstrated that this information was known to the recipient party prior to notification, if the party obtained this information independently or acquired it by lawful means, or if this information is part of the current state of technology.

(3) The parties hereto may depart from the duty to maintain secrecy by mutual written agreement. However, if knowledge will likely be revealed that by nature constitutes an invention (level of invention and innovation), the patent departments of the parties hereto are to be informed hereof in due time (usually two months) in advance.

11. Warranty/Liability

(1) The parties hereto undertake to carry out the work with due care, observing recognized scientific standards. The parties hereto are aware of the success risk associated with the research work. By virtue of the research nature of the study, the parties hereto provide no guarantee that a particular result will be obtained or that the result of the work may be used for a specific purpose or may be commercialized or that it is free of any third-party rights. Insofar as the parties hereto are aware of any opposing industrial property rights, they shall notify the other party without delay.

(2) Claims for damages shall be limited to willful and grossly negligent conduct. Liability for consequential damage is excluded.

(3) The parties hereto shall, if necessary, support each other in defending themselves against third-party claims by making the necessary declarations and/or providing documents. This shall particularly apply to disputes under patent law.

12. Mode of payment

(1) The payment pursuant to sec. 2 of a total of **€ 900.000** (plus any statutory value-added tax) shall be due in **5** tranches after the following milestones have been reached:
€150.000,- , 30 days after conclusion of the Contract on July 1, 2022, €200.000 after completion of WP1 including written report by WSIC, €200.000 after completion of WP2+3

including written report by WSIC, €200.000 after completion of WP4 including written report by WSIC, €150.000 after completion of final report. In the event that additional costs for materials and equipment are incurred (e.g., if the dose-finding study shows that the necessary dose of L-DOS47 per animal is higher than anticipated), the Company shall, after consultation, provide the necessary materials to allow the study to be performed successfully.

(2) If the services owed and rendered by the WSIC under this Contract are subject to value-added tax, the WSIC shall be entitled to invoice the statutory value-added tax in addition to the remuneration agreed in this Contract, provided that said value-added tax is shown separately on the invoice. The Company waives its defense of the statue of limitation in this respect.

(3) Travel expenses jointly agreed on shall be reimbursed separately.

(4) The WSIC, the Project Manager, and the employees of the WSIC shall not receive any unconnected benefits from the execution of this Contract beyond the remuneration agreed herein.

(5) All payments made by the Company shall be made into the following account for third-party funds held by the University WSIC Tuebingen:

Bank	BW – Bank
IBAN	DE41 6005 0101 7477 5037 93
BIC	SOLADEST600

specifying the posting no._____ (fund no.)

13. Principle of separate interests

The parties hereto acknowledge that the conclusion of this Contract shall not in any way influence the transactions of the WSICCSIC, in particular its procurement processes and pricing, and that no such expectations exist.

14. Duration of the Contract, termination

(1) This Contract shall come into force *on July 1,2022, the experiments will start September 1 for the duration of 2 years*. The Contract may be extended for a limited period after agreement has been reached in writing.

(2) This Contract may only be terminated by either party for good cause. Notice of termination must be given in writing. The Company shall receive an interim report containing the

research results obtained up until the termination of the Contract. Secs. 3-13 shall continue to apply after early termination of the Contract.

(3) In the event that the research project is terminated early, the WSIC shall receive prorated remuneration for the services rendered by the WSIC until the date of termination. In addition, the Company shall reimburse the WSIC beyond the date of early termination such expenses as are incurred with respect to the specified research and in performance of legal obligations, unless the WSIC fails to fulfill its duty to ensure that said legal obligations are terminated in good time. The expenses to be reimbursed beyond the date of termination may not exceed the funds budgeted for the project as a whole.

(4) If notice of termination is given for good cause for which the WSIC is liable, the WSIC shall receive prorated remuneration only for the services rendered until the date of termination which are of interest to the Company.

15. Written form

Changes and amendments to this Contract must be made in writing to be effective. Collateral agreements have not been made; in the event that such agreements are made, they must also be made in writing.

Applicable law and place of jurisdiction

This Contract shall be governed by and construed solely in accordance with German law. The German conflict of law provisions shall not apply. The place of jurisdiction shall be Tuebingen, Germany.

16. Severability

In the event that individual provisions of this Contract are ineffective, this shall not affect the validity of the remaining provisions. Any such invalid provision shall be replaced by a provision which best reflects what the parties hereto intended or would have intended if they had been aware of the invalidity of the provision. The same shall hold for any omissions in the Contract.

Toronto, dated 05-lip-2022

DocuSigned by Artur Gabor

Artur Gabor | Zatwierdzam ten dokument 05-Jul-2022 | 1:30:11 PM PDT

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CEO (Artur Gabor)

Tübingen, dated 06-Jul-2022

DocuSigned by Dr. Iris Wolf

Dr. Iris Wolf | Ich genehmige dieses Dokument 06-Jul-2022 | 5:42:02 AM PDT

012E8145D2DA463C9ED7BFB601296E92

Legal Department UKT

DocuSigned by Prof. Dr. Bernd Pichler

Prof. Dr. Bernd Pichler | Ich genehmige dieses Dokument 06-Jul-2022 | 6:14:02 AM PDT

Head of the Department (Prof. Dr. B Pichler)

DocuSigned by Prof. Dr. Andre F. Martins

Prof. Dr. Andre F. Martins | Ich habe dieses Dokument g 07-Jul-2022 | 2:47:47 AM PD

Project Leader (Prof. Dr. Andre F. Martins)

DocuSigned by PD Dr. Manfred Kneilling

PD Dr. Manfred Kneilling | Ich genehmige dieses Dokume 07-Jul-2022 | 3:12:02 AM PDT

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Project Leader (PD Dr. Manfred Kneilling)

Annex A, Work schedule

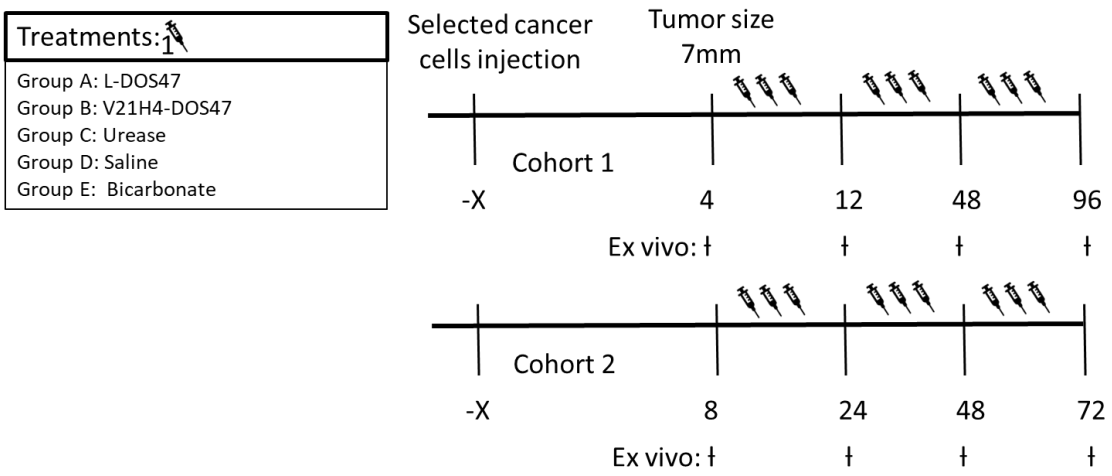
WP1. FDG/acidoCEST studies with human xenografts in immunodeficient (NOD/SCID) mice – proof of concept (7 months)

The goal of this aim is to determine the pH change that occurs upon single or multiple doses of L-DOS47. The fastest way to do this is with human cell lines in immunodeficient mice. Subcutaneous tumors are acceptable for these experiments, as only pH measurements will be done – no efficacy.

1. Screen human cell lines for CEACAM6 expression by flow cytometry
    a. Also screen for VEGFR2 expression to determine if we can use V21H4-DOS47 as a negative control reagent. If cells do express VEGFR2, urease alone will need to be used as a negative control instead.
    b. Include CA (HT29p), breast cancer (MCF-7:5C), PDA (HPAF-II and BxPC3; optional), NSCLC (NCA-90) and lung carcinoma (A549) cell lines. Manfred has another model we could test for CEACAM6 expression – this is a skin squamous cell carcinoma that is induced in K5.Stat3C mice upon skin exposure to DMBA and TPA. We will need to check the genomic atlas to see if CEACAM6 is expressed.
    c. Select four cell lines with positive CEACAM6 expression to move forward.
2. Let the mice develop tumors subQ until they achieve a volume of ~350mm^3 (5-7mm diameter)
    a. Treat the mice intravenously with a single dose of L-DOS47, V21H4-DOS47 (or urease), or saline. Test three different doses. Perform PET/MRI scans on the mice that include FDG/acidoCEST for measuring the tumor metabolic status and acidity simultaneously. Take readings at multiple time points (eg. 4 hrs, 8 hrs, 12 hrs, 24 hrs, **48 hrs**, 72 hrs., 96 hrs). If we still see high pH at 96 hrs with the first cell line tested, then plan to increase time points past 96 hrs for future cell lines tested.
    b. Start with 20 mice per group. If any drop out, we should still have 5 per group.
    c. Based on the results of (a), design experiments to monitor the effect of sequential doses of L-DOS47. The dose of L-DOS47 to be used, frequency of dosing and FDG/acidoCEST measurement times TBD.

Calculation of animals: 4 human cell lines x 40 (20 cohort 1 +20 cohort 2) mice per cell line group (4 mice sacrificed at each time point) = 120 per treatment full group x 5 treatments.
Total = 600 mice

i)



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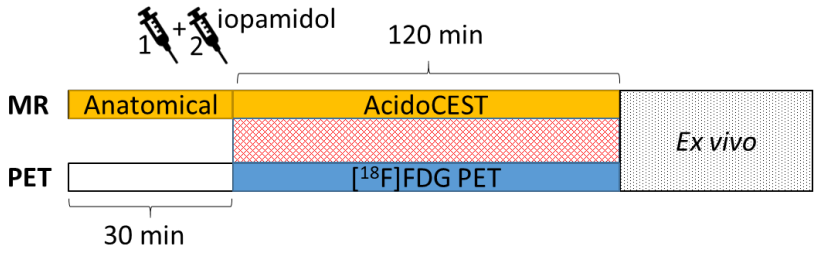


WP2. PET/MRI studies with L-DOS47 radiolabelled with 64Cu-NOTAAGA - biodistribution and perfusion (2-3 months)

1. Use labelled V21H4-DOS47 or labelled urease as controls for these studies.
2. Select 2 promising tumor mouse models from WP1 and inject i.v. the 64Cu-labeled L-DOS47 (**n=25**).
3. Record PET/MRIs for biodistribution analysis. Sacrifice mice for dosimetry and tissue analysis.

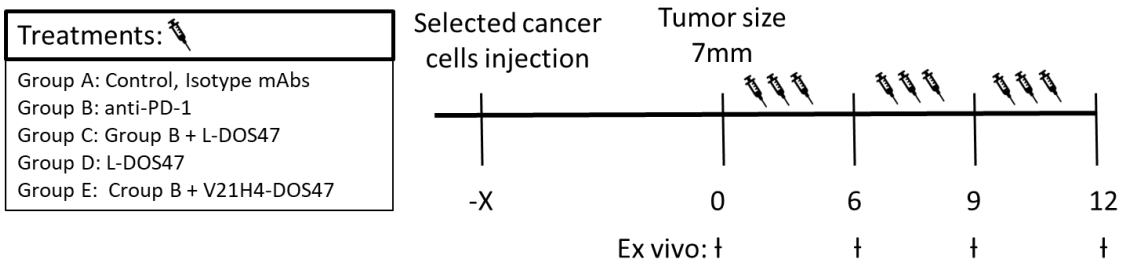
WP3. Measure pH of tumors from checkpoint inhibitor (CPI) responsive and refractory mouse models (6-8 months)

The goal of this aim is to determine if there is a correlation between the pH of the tumor microenvironment and the responsiveness of the tumor model to CPI therapy. These models will hopefully also be used for immunotherapy experiments in WP4.

1. Develop mouse models (Balb/c and C57Bl/6J) with the following cell lines:
    a. refractory: 4T1, EO771 (partially responsive) (both breast lines) – orthotopic
    b. responsive: MC38, CT26 (both colon lines) – we will try to do orthotopic if possible.
2. Let the mice develop the tumors until they achieve a volume of ~350mm^3 (5-7mm diameter).
3. Use 25 mice per group. As above, if some drop out, we should still have 5 mice per group.
4. Perform PET/MRI scans on the mice that will include FDG/acidoCEST for measuring the tumor metabolic status and acidity simultaneously.

<u>Calculation of animals</u>: 4 cell line cancers x 25 mice per cell line group (4 mice sacrificed at each time point) = 100 per treatment full group x 5 treatments. Total = 500 mice

i)



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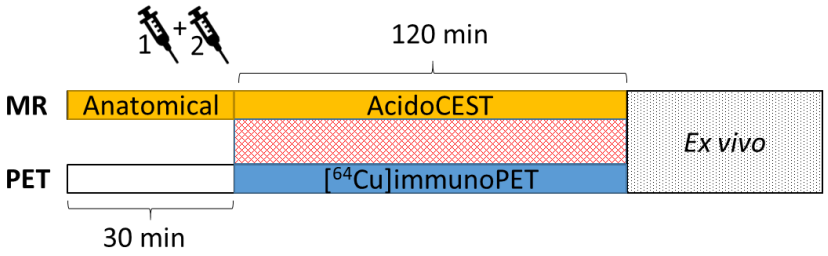


WP4. Study therapeutic effect in murine cell lines transfected with CEACAM6 (26 months)

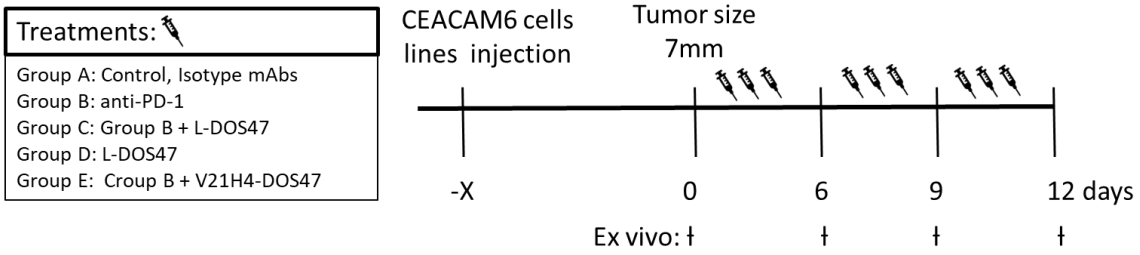
1. Based on pH determinations from WP3, select cell line models to move forward.
2. Evaluate selected cell lines by flow cytometry to determine MHC I and PD-L1 expression.
3. For cells that are PD-L1 positive and MHC I positive, stably transfect with a CEACAM6 lentivirus. Confirm expression of CEACAM6 by flow cytometry.
4. Perform in vitro experiments to determine the effect of acidity on MHC I and PD-L1 expression, and subsequent treatment in vitro with L-DOS47 + urea to raise pH in vitro. Monitor pH in vitro using the PreSens SDR SensorDish reader.
5. Develop orthotopic/subQ mice models (Balb/c and C57Bl/6J) with the selected cell lines.
6. Monitor tumor growth in untreated mice for 3-4 weeks to determine if the tumors are naturally rejected due to the expression of the foreign human CEACAM6 protein. If this occurs, then that tumor model cannot be used.
7. Select two of the four models to move forward to imaging and efficacy studies.
8. Imaging: allow tumors to reach a volume of ~350mm^3 (5-7mm diameter). Perform FDG/acidoCEST experiments. Use one dose of L-DOS47 (and V21H4-DOS47 as negative control) and perform a time course. Use results from WP1 to guide the choice of dose, number of doses, and imaging times. Use the results of this imaging to determine the dosing schedule for the efficacy studies.
9. Efficacy: allow tumors to reach a volume of ~150mm^3 (5-7mm diameter). Split mice into 5 treatment groups (suggested):
    a. Isotype control ab
    b. Anti-PD1 ab
    c. L-DOS47
    d. V21H4-DOS47

e. Anti-PD1 + L-DOS47

10. Treat mice with L-DOS47/V21H4-DOS47 with the dose and dosing schedule suggested by imaging studies above.
11. Record tumor growth, body weights and survival rates. Sacrifice mice for tissue histology and immunohistochemistry (CEACAM6 expression, presence of infiltrating immune cells, CAIX).

<u>Calculation of animals</u>: 4 CEACAM6 cell line cancers x 25 mice per cell line group (4 mice sacrificed at each time point) = 100 per treatment full group x 5 treatments. Total = 500 mice

i)



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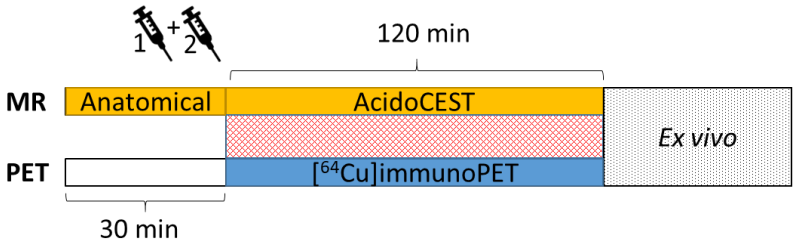

WP5. Measure tumor pH and test efficacy in the transgenic CEABAC mouse (12 months)

The goal of this aim is to evaluate the efficacy of L-DOS47 in combination with immunotherapy (anti-PD1) in a model that endogenously expresses CEACAM6 – the CEABAC mice. This should eliminate some of the issues faced with the transfected CEACAM6 mouse lines, such as the decreased expression of CEACAM6 after implantation.

1. Breed CEABAC transgenic mice or purchase the mice, if available.
2. Perform FDG/acidoCEST and efficacy studies as described in WP3/4.

<u>Calculation of animals</u>: 25 CEABAC in-house breeding mice (4 mice sacrificed at each time point) x 5 treatments = Total = 125 mice

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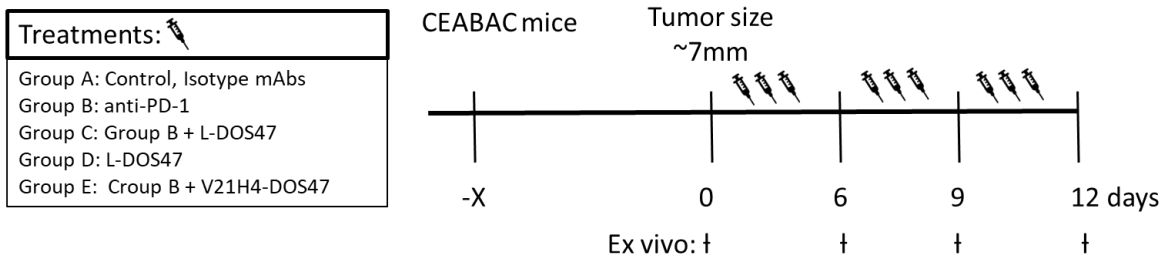

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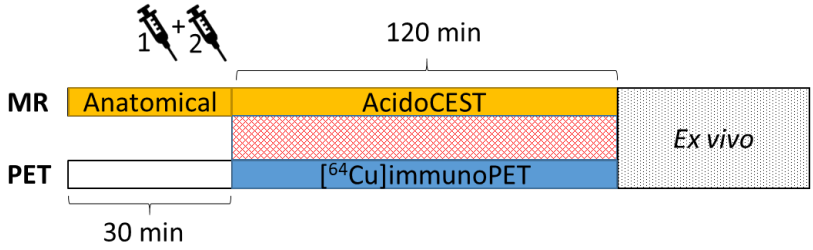

Timetable:

Time / Project	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Aim 1												
Aim 2												
Aim 3												
Aim 4												
Aim 5												

- ~~**Budget (3 years)**~~

1. ~~Personnel:~~ ~~**470.666 EUR**~~
   - ~~1 PhD student (65% E 13 lvl2)~~
   - ~~1 PostDoc (75% E13 lvl4)~~
   - ~~1 TA Preclinical Imaging (50% E9 lvl2)~~
   - ~~1 TA Radichemistry (30% E9 lvl2)~~

2. ~~Animal costs:~~ ~~**325.800 EUR (justification above)**~~

~~3. Cell lines and engineering costs: **60.000 EUR**~~

~~4. Consumables: **320.000 EUR**~~

- ~~Radiopharmacy: 80.000 EUR~~
- ~~Imaging: 60.000 EUR~~
- ~~Antibodies: 100.000 EUR~~
- ~~Services (histology, immunohistochemistry, flow cytometry, metabolomics): 80.000 EUR~~

~~5. **TOTAL (3 years):** 1.176.466 EUR~~

➢ Alternative budget (pack 2 +1 optional)

Time / Project	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Aim 1												
Aim 2												
Aim 3												
Aim 4												
Aim 5												

Years 1 and 2

1. Personnel: **404.335 EUR**
   - 1 Postdoc (75% E13 lvl4)
   - 1 Postdoc (100% E13 lvl4)
   - 1 TA Preclinical Imaging (50% E9 lvl3)
   - 1 TA Radichemistry (30% E9 lvl3)
2. Animal costs: **304.000 EUR (justification above)**
3. Cell lines and engineering costs: **45.000 EUR**
4. Consumables: **145.000 EUR**
   - Radiopharmacy: 60.000 EUR
   - Imaging: 25.000 EUR
   - Antibodies: 30.000 EUR
   - Services (histology, immunohistochemistry, flow cytometry, metabolomics): 30.000 EUR
   -
5. **TOTAL (2 years):** 898.335 EUR

Year 3

1. Personnel: **211.310 EUR**

- 1 Postdoc (75% E13 lvl4)
- 1 Postdoc (100% E13 lvl4)
- 1 TA Preclinical Imaging (50% E9 lvl3)
- 1 TA Radichemistry (30% E9 lvl3)

2. Animal costs: **21.800 EUR (justification above)**

3. Consumables: **60.000 EUR**
   - Radiopharmacy: 20.000 EUR
   - Imaging: 10.000 EUR
   - Antibodies: 10.000 EUR
   - Services (histology, immunohistochemistry, flow cytometry, metabolomics): 20.000 EUR

4. **TOTAL (1 year):** 293.110 EUR