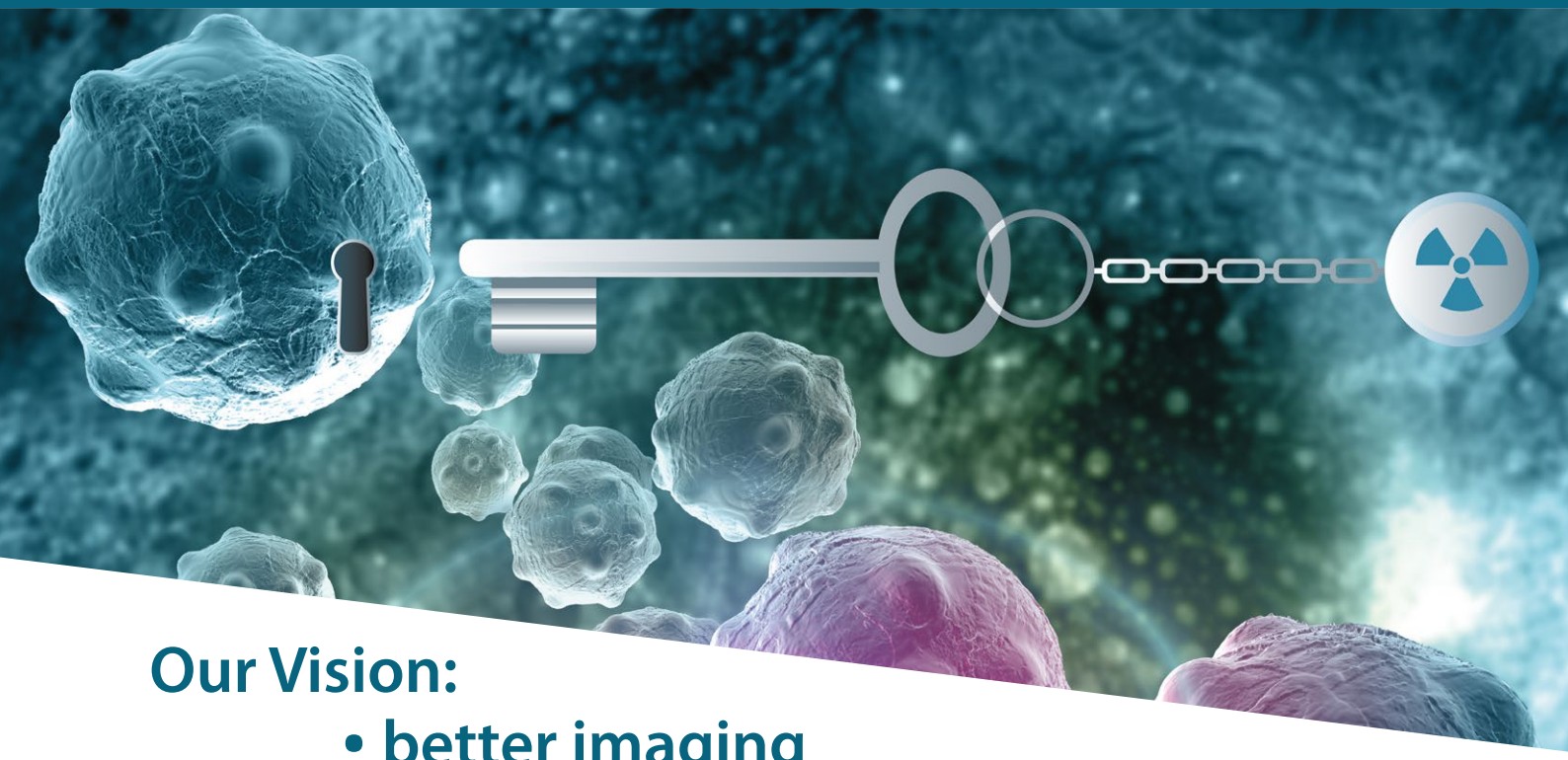
PentixaPharm develops a CXCR4 theranostic approach for hematological diseases



Our Vision:

- better imaging
- better treatment
- better outcome

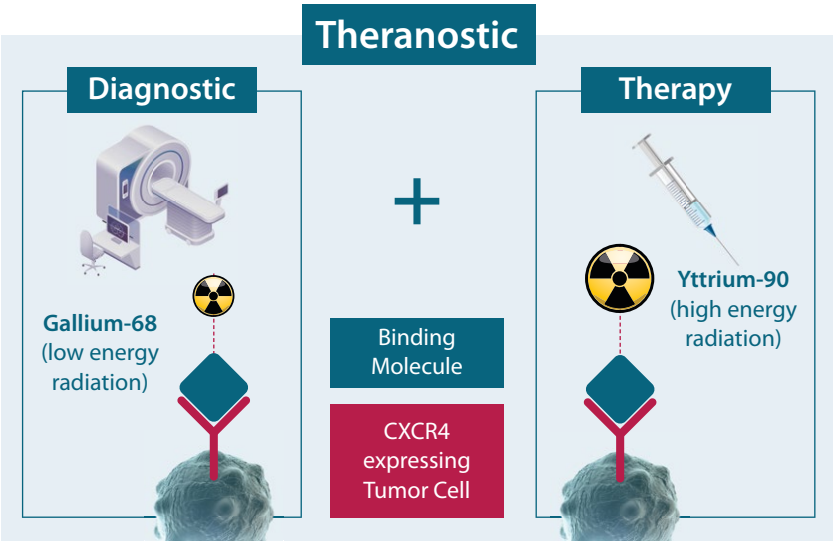
[^{68}Ga]Ga-PentixaFor (Gallium(^{68}Ga)boclatixafortide) and **[^{90}Y]Y-PentixaTher** (Yttrium(^{90}Y)anditixafortide): an innovative theranostic approach for diagnosis and treatment of hematological neoplasms and other diseases.

PentixaPharm

An Eckert & Ziegler Company

What is Theranostic?

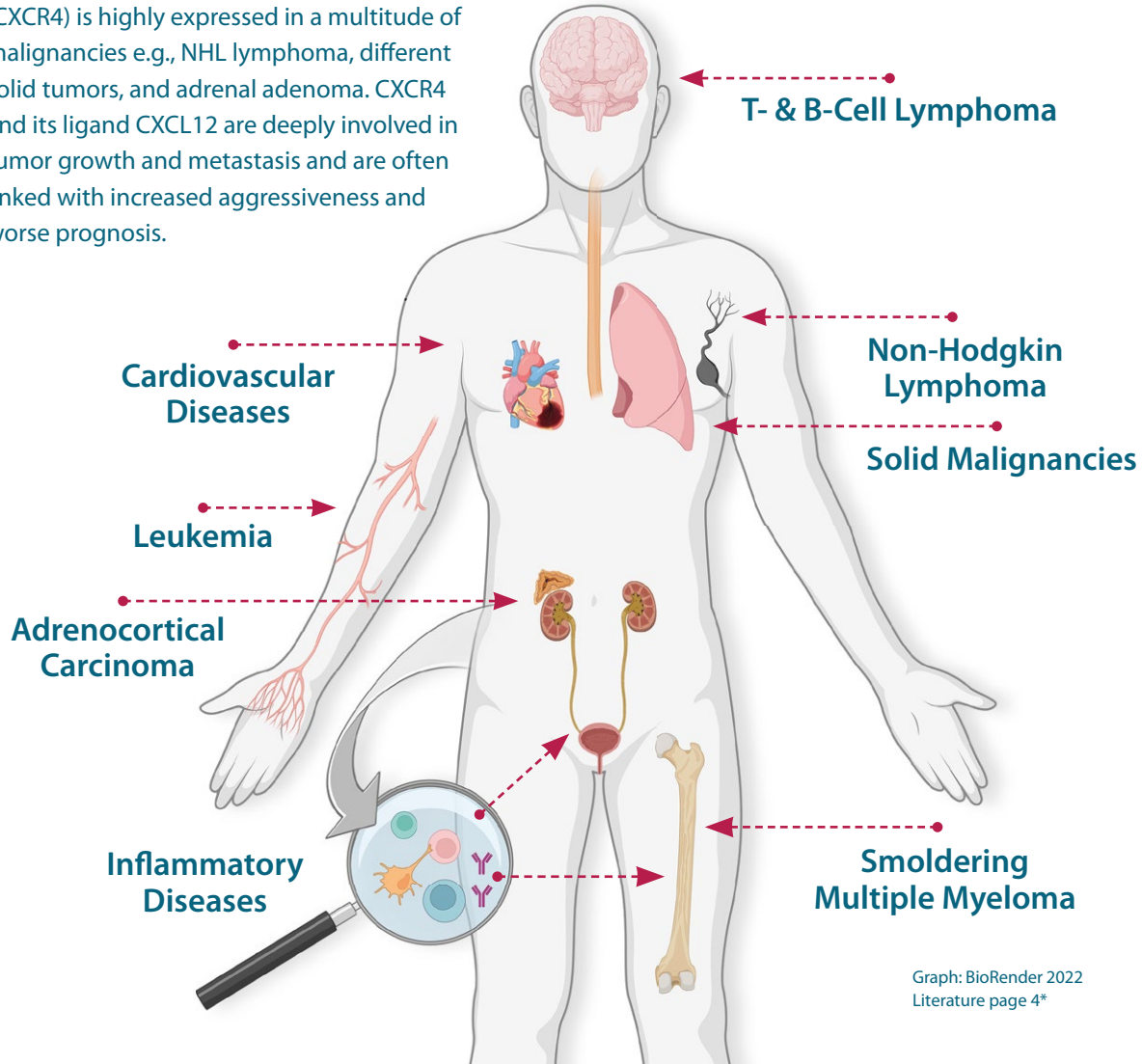
The tumor lesion can be localized and diagnosed by PET/CT using the radioactive agent **[^{68}Ga]Ga-PentixaFor** (Gallium(^{68}Ga) boclatixafortide), which binds to the C-X-C chemokine receptor type 4 (CXCR4) on the tumor cells.



The tumor is destroyed only in the proximity of the emitting agent **[^{90}Y]Y-PentixaTher** (Yttrium(^{90}Y) anditixafortide) and therefore the treatment is well tolerated.

C-X-C chemokine receptor type 4 (CXCR4) is a promising target for theranostic approach

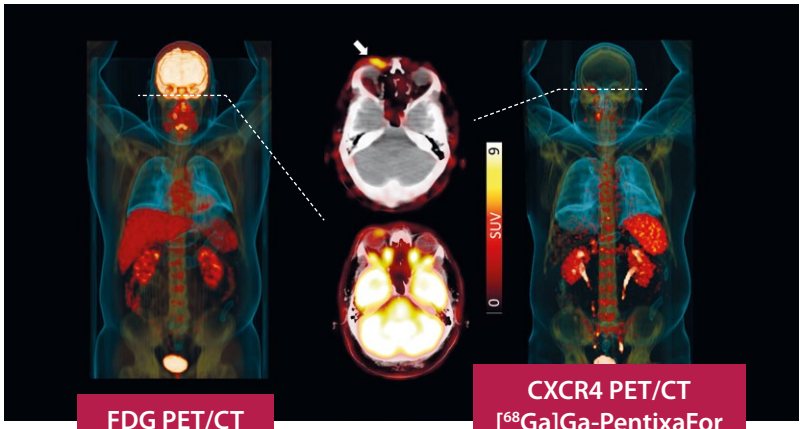
The **C-X-C chemokine receptor type 4** (CXCR4) is highly expressed in a multitude of malignancies e.g., NHL lymphoma, different solid tumors, and adrenal adenoma. CXCR4 and its ligand CXCL12 are deeply involved in tumor growth and metastasis and are often linked with increased aggressiveness and worse prognosis.



Graph: BioRender 2022
Literature page 4*

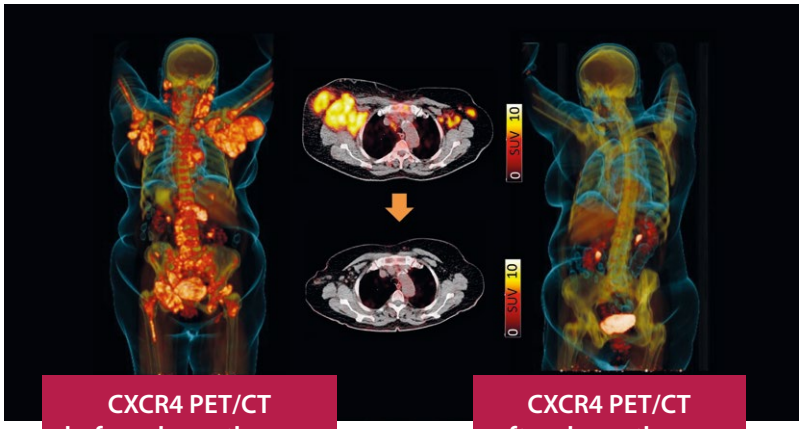
Diagnosis & Treatment

PET/CT Imaging with [^{68}Ga]Ga-PentixaFor (Gallium(^{68}Ga)boclatixafortide)



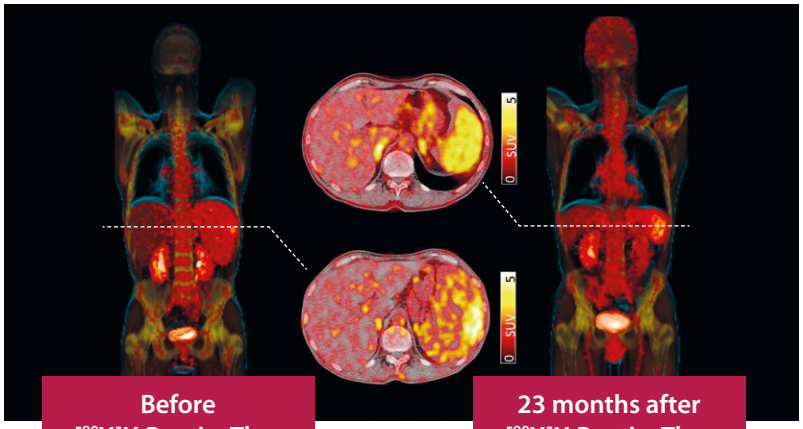
[^{68}Ga]Ga-PentixaFor (Gallium(^{68}Ga)boclatixafortide **Scan** detected a marginal zone lymphoma (MZL) (periorbital, white arrow) which led to upstaging and change of treatment protocol.

Therapeutic Monitoring with [^{68}Ga]Ga-PentixaFor (Gallium(^{68}Ga)boclatixafortide)



Patient with splenic MZL before (left) and after (right) chemotherapy treatment (R-Benda).

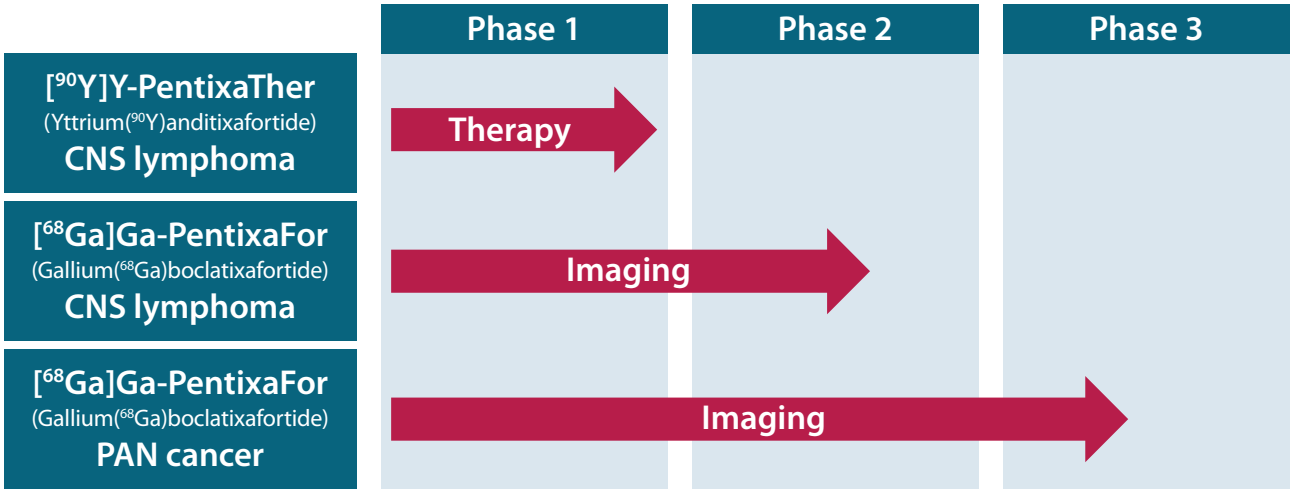
Radioligand Therapy (RLT) with [^{90}Y]Y-PentixaTher (Yttrium(^{90}Y)anditixafortide)



Metabolic response after CXCR4-directed RLT as conditioning regimen before allogeneic hematopoietic stem cell therapy in a pretreated patient with hepatosplenic T-Cell lymphoma. Scans derived from CXCR4 PET/CT.

All images courtesy A.K. Buck, R.A. Werner, UKW

Current Portfolio & Clinical Development Program of PentixaPharm



With our clinical studies we would like to support and verify the following benefits of the CXCR4 theranostic approach:

- Precise alternative to localize hematological tumor lesions
- Improved staging of the tumor
- Personalized and adapted therapy

*Herhaus u. a. 2020; Starzer u. a. 2021; Chen u. a. 2021; Breun u. a. 2019; Lapa, Lückerath, Kleinlein, u. a. 2016; Wester u. a. 2015; Pan, Luo, Zhang, u. a. 2020; Jacobs u. a. 2022; Mayerhoefer u. a. 2021; Duell u. a. 2021; Luo u. a. 2018; Pan u. a. 2021; Haug u. a. 2019; Mayerhoefer u. a. 2022; Pan, Luo, Cao, u. a. 2020; Kraus u. a. 2021; Lapa u. a. 2017; Philipp-Abbrederis u. a. 2015; Kuyumcu u. a. 2021; Mayerhoefer u. a. 2018; Buck, Haug, u. a. 2022; Herhaus u. a. 2016; Buck, Grigoleit, u. a. 2022; Lapa, Lückerath, Rudelius, u. a. 2016; Werner, Weich, Higuchi, u. a. 2017; Werner, Weich, Schirbel, u. a. 2017; Bluemel u. a. 2017; Fang u. a. 2018; Heinze u. a. 2018; Ding, Zhang, u. a. 2020; Ding, Tong, u. a. 2020; Bouter u. a. 2018; Derlin u. a. 2017; 2018; Rausch u. a. 2020; Li u. a. 2019; Thackeray u. a. 2015; Reiter u. a. 2018; Werner u. a. 2021.

CXCR4: CXC chemokine receptor 4, **NHL:** Non-Hodgkin Lymphoma, **PET:** Positron Emission Tomography, **CT:** Computed Tomography, **FDG:** Fluorodeoxyglucose, **MZL:** Marginal Zone Lymphoma, **RLT:** Radioligand therapy, **SUV:** Standardized uptake value.

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