ASX Announcement

# Positive DEP® HER2-Lu preclinical data support Phase 1 entry

**Melbourne, Australia; 2 July 2026: Starpharma** (ASX: SPL, US OTC: SPHRY), an innovative biotechnology company advancing dendrimer technology from the lab to the patient, today announces positive preclinical data for its DEP® HER2-targeted radiotherapy candidate, DEP® HER2-lutetium (DEP® HER2-Lu), showing highly favourable biodistribution and encouraging anti-tumour activity. The data support progression toward a planned first-in-human (FIH) Phase 1 clinical study in H2 CY2026.

**Key highlights**

- DEP® HER2-Lu demonstrated strong tumour uptake and retention, low kidney accumulation and short blood circulation time in preclinical HER2-positive cancer models, supporting the target profile for radioligand therapy.
- The DEP® dendrimer component improved biodistribution versus a non-DEP® HER2-targeting construct, supporting Starpharma's strategy to use DEP® technology to enhance radiopharmaceutical delivery.
- DEP® HER2-Lu showed statistically significant anti-tumour activity and survival benefit in preclinical models, with effects comparable to Enhertu® in those models.
- Phase 1 preparations are well advanced, with first-in-human evaluation planned for H2 CY2026 and FDA feedback supporting the proposed development pathway.
- Investor webinar: **Tuesday, 7 July 2026** at **2:00pm AEST**.

Radioligand therapies are designed to deliver radiation directly to cancer cells by attaching a radioactive payload to a targeting molecule. DEP® HER2-Lu is designed to combine a HER2[1]-targeting nanobody (VHH)[2], Starpharma's proprietary DEP® dendrimer platform and the therapeutic radioisotope lutetium-177, with the aim of delivering radioactivity selectively to tumours while limiting exposure to healthy organs, particularly the kidneys.

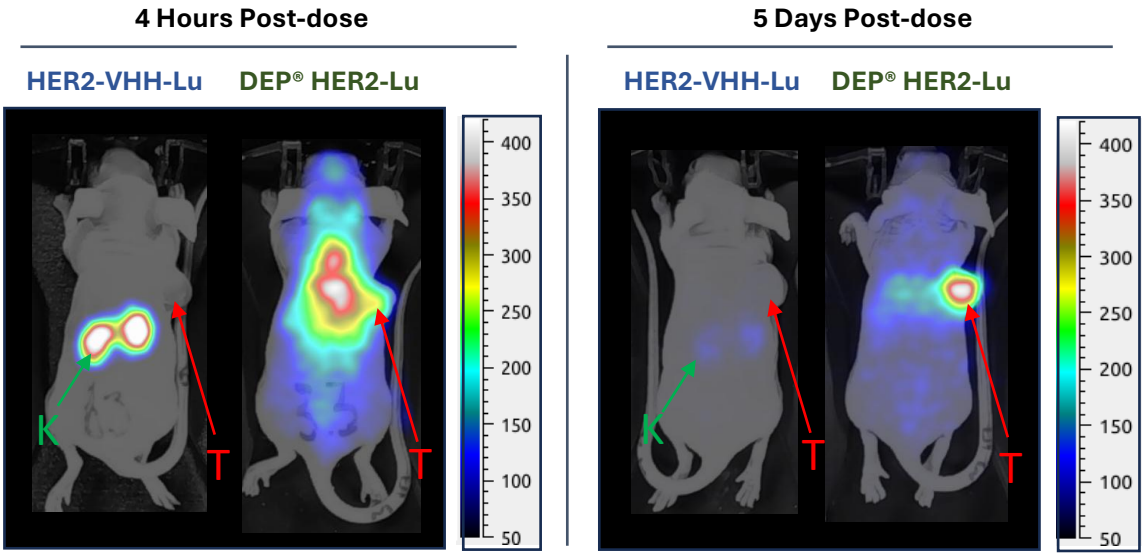
DEP® HER2-Lu is initially being developed for patients with advanced HER2-positive cancers, including gastric and gastro-oesophageal junction cancers and other HER2-expressing advanced cancers following prior HER2-targeted therapy. This represents a significant unmet medical need and potential treatment opportunity, with an estimated 75-80% of gastric cancer patients treated with the antibody drug conjugate (ADC), Enhertu® (trastuzumab deruxtecan, T-DXd), requiring next-line therapy within 12 months.[3] The current combined value of the HER2-positive gastric and gastro-oesophageal junction cancer, and HER2-positive breast cancer markets, is US$12.6Bn and expected to grow to US$17Bn by 2030.[4]

In a HER2-positive cancer model, DEP® HER2-Lu achieved strong tumour uptake, prolonged tumour retention and low kidney exposure compared with a radiolabelled HER2-targeting VHH without

[1] Human Epidermal growth factor Receptor 2; HER2 is well-validated therapeutic target in several aggressive cancers, including gastric, gastro-oesophageal junction and breast cancers.
[2] A nanobody is a single-domain antibody (sdAb), also known as a VHH, as it represents the variable (V) antigen-binding domain derived from the heavy chain (H) of a heavy-chain-only Ab (H).
[3] Shitara K, et al. Trastuzumab Deruxtecan or Ramucirumab plus Paclitaxel in Gastric Cancer. *N Engl J Med* 2025, 393(4):336-348. DOI: 10.1056/NEJMoa2503119
[4] HER2-Positive Breast Cancer Market Report 2026 (https://www.researchandmarkets.com/reports/6075485/her2-positive-breast-cancer-market-report) and HER2-Positive Gastric Cancer Market Report 2026 (https://www.researchandmarkets.com/reports/6168683/human-epidermal-growth-factor-receptor-2-her2), Research and Markets.

dendrimer (HER2-VHH-Lu) (Figure 1). This biodistribution profile is important because it indicates where the radioactive payload goes in the body and whether tumour exposure can be achieved while limiting off-target organ exposure.

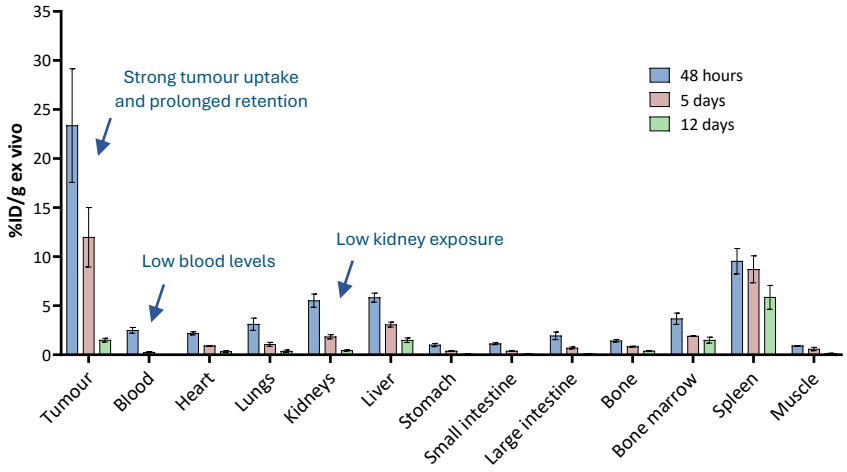
**Figure 1. DEP® HER2-Lu biodistribution in a HER2-positive SKOV3 tumour mouse model at 4 hours and 5 days post-dose, showing strong tumour accumulation and lower kidney exposure compared with HER2-VHH-Lu, which is rapidly excreted via the kidneys.**




2D SPECT imaging showing actual radiation signal (intensity) over time. SKOV3 is a HER2-high expressing cancer cell line. Mice (n=3 per group) dosed with 15 MBq of radioactivity. One representative mouse is shown per group per timepoint. T = tumour; K = kidney.

DEP® HER2-Lu also maintained high tumour levels relative to blood and major organs from 48 hours to 12 days post-dose (Figure 2). At 12 days, tumour radioactivity was approximately 150 times greater than blood levels.

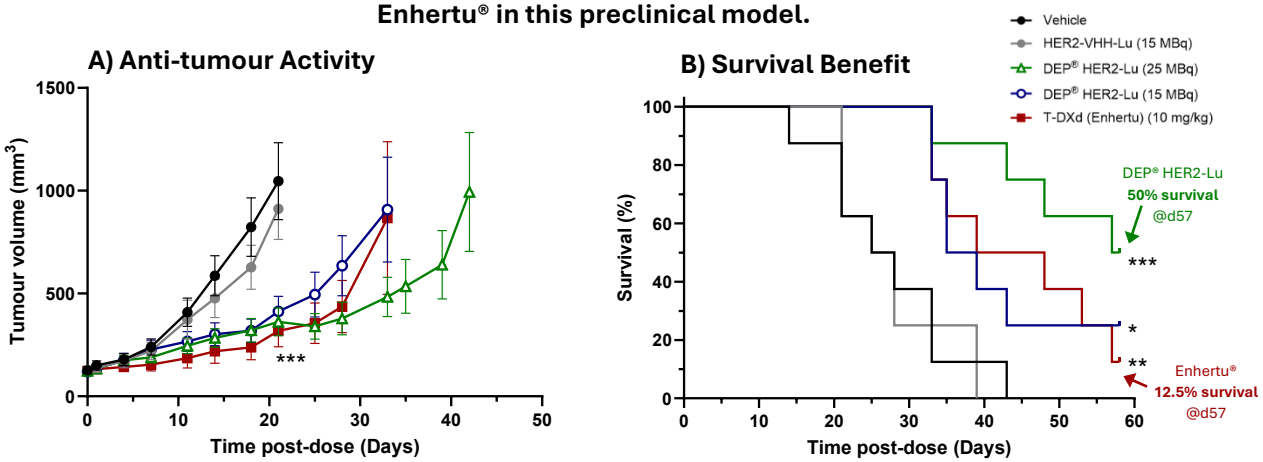
**Figure 2. DEP® HER2-Lu biodistribution in a HER2-positive SKOV3 tumour mouse model, showing high radioactivity levels in tumour and low levels in blood, kidney and other organs from 48 hours to 12 days post-dose.**




*Ex vivo* biodistribution (ID/g, injected dose per gram). Mice (n=3 per group) dosed with 15 MBq of radioactivity. Data are mean ± standard error of the mean (SEM)

The favourable biodistribution profile translated into statistically significant anti-tumour activity and improved survival in a HER2-positive cancer model. These effects were comparable to Enhertu®, an approved HER2-directed ADC (Figure 3).

**Figure 3. DEP® HER2-Lu demonstrated statistically significant anti-tumour activity (A) and survival benefit (B) in a HER2-positive SKOV3 tumour mouse model, with effects comparable to Enhertu® in this preclinical model.**




Mice (n=8 per group) dosed IV on day 0. Tumour volume curves displayed until volume of tumour in the first mouse in each group reaches volume endpoint (1500 $mm^3$). Study terminated Day 57. **Tumour volume data** are mean ± SEM and analysed by ordinary one-way analysis of variance (ANOVA) with Dunnett's multiple corrections on tumour growth inhibition (Day 21-Day 0) at Day 21. ***P<0.001 for DEP® HER2-Lu (15 and 25 MBq) and T-DXd (Enhertu®) vs Vehicle (phosphate buffered saline, PBS) and HER2-VHH-Lu. **Survival data** are analysed by Logrank (Mantel-Cox) test between two groups. *P<0.05, **P<0.01 and ***P<0.001 for each group vs. Vehicle and HER2-VHH-Lu.

DEP® HER2-Lu anti-tumour activity and survival benefit were also observed in a HER2-low expressing preclinical model. While the planned first-in-human study is expected to initially focus on HER2-positive cancers, these HER2-low findings may support future evaluation across a broader HER2-expressing patient population.

**Professor Tony Lahoutte, MD, PhD, a physician and Head of the Department of Nuclear Medicine at University Hospital (UZ) Brussel, and Head of Molecular Imaging and Therapy Research (MITH) at the Vrije Universiteit Brussel (VUB) in Belgium, said:**

"The preclinical data for Starpharma's DEP® HER2-Lu are compelling, particularly the biodistribution profile, which demonstrates strong tumour uptake and retention together with low kidney accumulation.

"In radioligand therapy, off-target exposure, especially to the kidneys and blood, can limit dosing and clinical utility. The preclinical data for DEP® HER2-Lu clearly show a favourable biodistribution profile that also achieves encouraging anti-tumour activity and survival benefit.

"These data support further clinical evaluation of DEP® HER2-Lu and I am excited to see the translation of these data in the planned first-in-human study."

**Starpharma Chief Executive Officer, Cheryl Maley, said:**

"These data represent an important milestone for DEP® HER2-Lu and provide strong preclinical support for advancing the program toward first-in-human evaluation. The key point of differentiation is the biodistribution profile – strong tumour uptake and retention combined with low kidney accumulation – which is the balance we believe is needed to improve the therapeutic potential of radioligand therapy.

"Importantly, the results also support the broader potential of Starpharma's DEP® platform in radiopharmaceuticals. With supportive FDA feedback and Phase 1 preparations well advanced, DEP® HER2-Lu is positioned to generate important clinical data in advanced HER2-positive cancers from H2 CY2026.

"I am incredibly proud of the team and their diligent efforts to achieve the optimal profile for the DEP® HER2-Lu radiotherapeutic construct. Their intense focus to get the best outcome for patients has been very impressive."

DEP® HER2-Lu was well tolerated in these preclinical studies. A formal GLP toxicology study using non-radiolabelled DEP® HER2 showed no abnormal clinical findings and no significant changes in haematology parameters.

Starpharma's planned first-in-human Phase 1 study of DEP® HER2-Lu is expected to commence in H2 CY2026 and initially enrol up to 15 patients with advanced HER2-positive cancers. The study will assess safety, tolerability, pharmacokinetics, biodistribution and organ radiation dosimetry, providing the first clinical evaluation of DEP® HER2-Lu.

In April 2026, the FDA indicated that Starpharma's existing preclinical data package, together with data generated from the planned first-in-human study, should be adequate to support future US clinical studies under an Investigational New Drug application. This feedback provides regulatory alignment and supports Starpharma's planned development pathway.

Beyond DEP® HER2-Lu, the data support the potential broader application of Starpharma's DEP® dendrimer technology to improve the delivery and biodistribution of radiotherapeutic payloads across additional tumour targets.

**Investor webinar**

Starpharma will host an investor webinar to discuss the DEP® HER2-Lu preclinical data, broader radiopharmaceutical platform progress and related patent update. The webinar will be held on **Tuesday, 7 July 2026** at **2:00pm AEST**. Investors can register for the webinar via the following link: https://us02web.zoom.us/webinar/register/WN_WEpJoIk8TtOGAPNeW2noXg

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**About Starpharma**

Starpharma ASX: SPL, US OTC: SPHRY) is an innovative biotechnology company with two decades of experience in advancing dendrimer technology from the lab to the patient. Our mission is to help patients with significant illnesses, such as cancer, achieve improved health outcomes and quality of life through the application of our unique dendrimer technology.

Dendrimers are precise, synthetically manufactured, nanoscale molecules. Their unique properties—including their size, structure, high degree of branching, polyvalency, and water solubility—are advantageous in medical and pharmaceutical applications.

Starpharma's portfolio of dendrimer-based products includes three clinical-stage DEP® (dendrimer enhanced product) assets, preclinical radiopharmaceutical assets, research collaborations, and three commercially marketed over-the-counter (OTC) products.

For more information about Starpharma, visit www.starpharma.com or connect with Starpharma on LinkedIn.

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**Disclosure**
This ASX Announcement was authorised for release by the Chair, Mr Rob Thomas.

**Forward-Looking Statements**
This document contains certain forward-looking statements, relating to Starpharma's business, which can be identified by the use of forward-looking terminology such as "promising", "plans", "anticipated", "will", "project", "believe", "forecast", "expected", "estimated", "targeting", "aiming", "set to", "potential", "seeking to", "goal", "could provide", "intends", "is being developed", "could be", "on track", or similar expressions, or by express or implied discussions regarding potential filings or marketing approvals, or potential future sales of product candidates. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no assurance that any existing or future regulatory filings will satisfy the FDA's and other authorities' requirements regarding any one or more product candidates, nor can there be any assurance that such product candidates will be approved by any authorities for sale in any market or that they will reach any particular level of sales. In particular, management's expectations regarding the approval and commercialization of the product candidates could be affected by, among other things, unexpected trial results, including additional analysis of existing data, and new data; unexpected regulatory actions or delays, or government regulation generally; our ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; government, industry, and general public pricing pressures; and additional factors that involve significant risks and uncertainties about our products, product candidates, financial results and business prospects. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated, or expected. Starpharma is providing this information as of the date of this document and does not assume any obligation to update any forward-looking statements contained in this document as a result of new information, future events or developments or otherwise. Clinical case studies and other clinical information given in this document are given for illustrative purposes only and are not necessarily a guide to product performance and no representation or warranty is made by any person as to the likelihood of achievement or reasonableness of future results. Nothing contained in this document, nor any information made available to you is, or shall be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of any Starpharma product.