

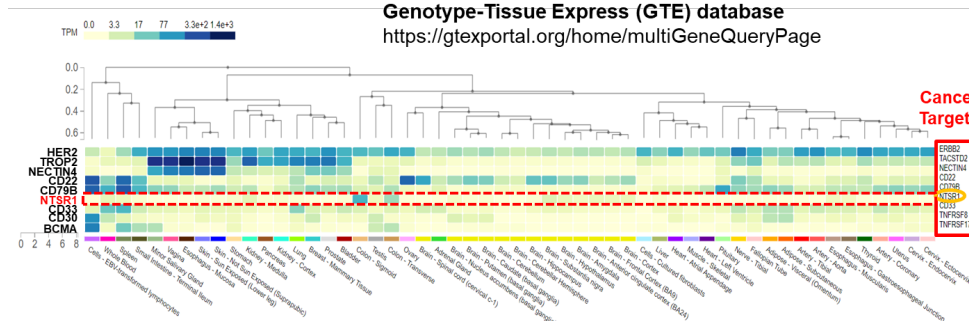


A novel antibody-drug conjugate (ADC) targeting cancers expressing neurotensin receptor 1 (NTSR1)

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Disease Background and Clinical Strategy



- The NHRI conducted big data analysis and utilized TCGA to confirm high NTSR1 expression in multiple cancer types associated with lung cancer prognosis.
- NTSR1 is a GPCR protein. It is expressed in the CNS, PNS, and GIS of humans. Its ligand is NTS, and the E3 loop of NTSR1 is a critical binding site for NTS.
- Activation of NTSR1 can enhance the proliferation, survival, invasion, and metastasis of different types of cancer cells.
- Blocking the NTS/NTSR1 signaling pathway can suppress the growth and metastasis of cancer.

Clinical Strategy

Proposed clinical development plans

- Relapsed or metastatic Head and neck squamous cell carcinoma cancer (R/M HNSCC)

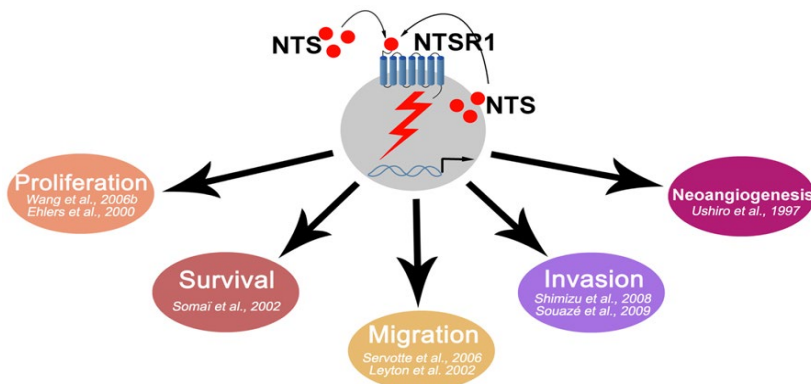
66,920 (USA)and 890,000 (worldwide) HNSCC cases annually in 2023 (American Cancer Society), 20-30 % of HNSCC develop mHNSCC

- **Single agent in R/M HNSCC patients after first treatment**, e.g. chemoradiotherapy (CRT), pembrolizumab, or the combination of pembrolizumab and chemotherapy
- **Combination with anti-PD1 in anti-PD1 unresponsive R/M HNSCC patients**

- **Metastatic castration-resistant prostate cancer (mCRPC):**

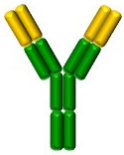
An estimated 288,300 prostate cancer cases USA annually in 2023 (American Cancer Society); 10% to 50% of cases progress to mCRPC within 3 years of diagnosis

- **Single agent in mCRPC patients**
- **Combination with anti-PD1 in anti-PD1 unresponsive mCRPC patients**



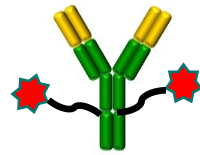
Product Mechanism of Action

Anti-NTSR1 mAb



Site-specific technology

Anti-NTSR1 ADCs



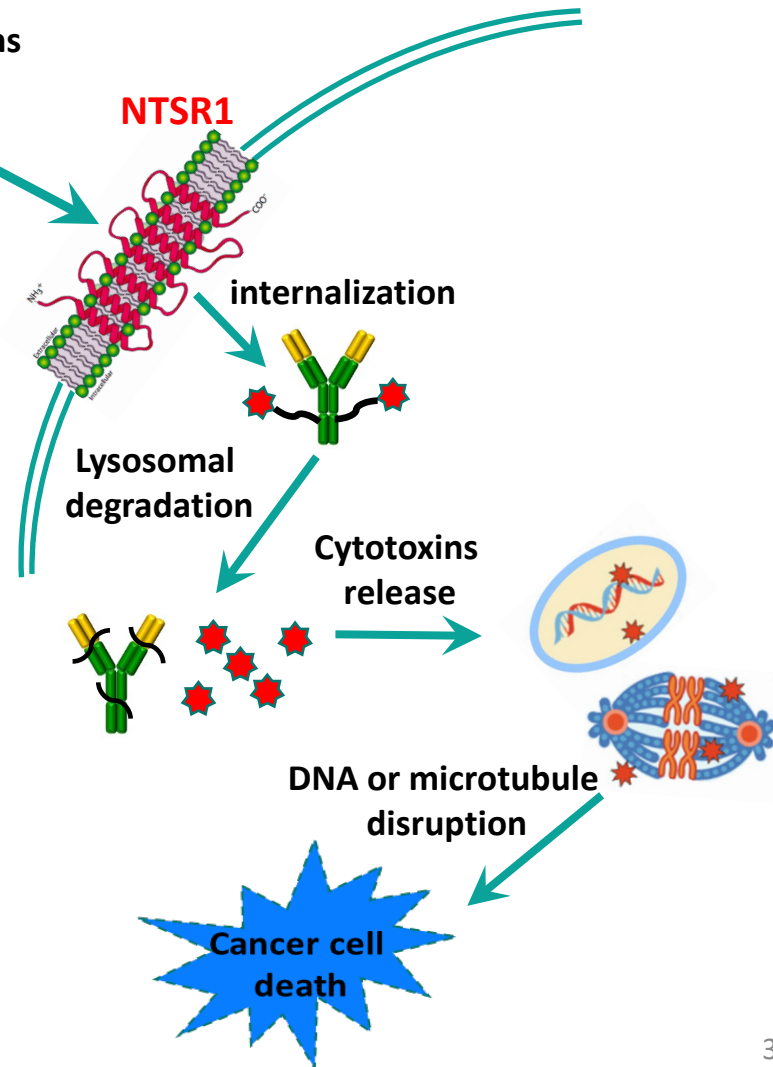
Cytotoxins

Trimannosyl ADC Platform

Advantages of Glycan Engineering Technologies

1. Complete control of conjugation site and conjugation ratio.
2. Capable of two different toxic payloads to one mAb.
3. Homogeneous ADCs.
4. High-yield conjugation under mild and physiological conditions.
5. Straightforward purification of conjugated ADCs.

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Competitor Landscape Analysis

(Target Product Profiles)

Pharmacology (in-house platform)	
Product description	First-in-class Anti-NTSR1 ADC
Indication & Target Patient	R/M HNSCC, mCRPC
Preclinical Data	
<u><i>In vitro</i> assay</u>	
Antibody Engineering	Affinity maturation & Humanization
k_{on} (1/Ms)	4.41E+05
k_{off} (1/s)	1.34E-04
Affinity constant (K_D), M	3.0E-10
<u><i>In vivo</i> anti-tumor efficacy</u>	
HNSCC CDX model : TGI(%)	>95%
mCRPC CDX model : TGI(%)	>90%

Product Summary including IP and publication

Key Features :

- Site-specific trimannosyl antibody drug conjugate platform.
- Novel Anti-NTSR1 antibody-Exatecan conjugates demonstrates favorable pharmacokinetics, excellent efficacy ($IC_{50} < 30nM$, $> TGI 90\%$ at 5 mpk), and high productivity (1.2g/L).

Intellectual Properties :

- **Trimannosyl conjugation platform**
WO2018126092A1, EP3568161A4, CN110121365A, JP6888764B2 (Granted), KR102294517B1(Granted), TW1673363B (Granted), AU2017388556B2 (Granted) , CA3048452A1(Granted) , US2020087697A1 (Granted).
- **Anti-NTSR1 mAb**
 - **Anti-human neurotensin receptor 1 antibody**
TWI781647B (Granted), WO2021252578A1. TW111150483, US 18/089,812, PCT/US2022/082472

Market Positioning :

- Anti-NTSR1 ADC offers a new drug or treatment option with a novel mechanism and therapeutic target at unmet medical indications: R/M HNSCC and mCRPC

Business Opportunities :

- License and/or collaboration and sponsored research.