

Nonclinical development of CTN001 for treating patients with breast cancer and gastric cancer

Centenaire Bioscience, Inc.

Disease Area	Oncology												
Product Type	Twin Fc-ICE antibody (Biopharmaceutical)												
Indication	<i>Trastuzumab, Pertuzumab or Enhertu-Refractory/relapsed Her2+ or Her2-low breast cancer AND gastric cancer(GC)</i>												
Target	HER2												
Mechanism of Action	<ul style="list-style-type: none"> Enhanced engagement of multiple innate immune cells and complements with HER2-expressing tumors Superior antibody-mediated functions (ADCC, ADCP/ADCT and CDC) 												
Competitiveness	<ul style="list-style-type: none"> Innovative Twin Fc-ICE platform for engaging innate immune cells via increased binding to activating Fcγ receptors and Her2 expressing cancer cells Best-in-class engineered antibody showing superior anti-tumor activity in HER2-low cancers as well as HER2+ cancers Good developability and safety, comparable to conventional IgG1 Targeting Enhertu-refractory/relapsed HER2+ and HER2-low patients 												
Development Stage	<i>Preclinical (Toxicology studies on-going)</i>												
Route of Administration	IV												
Key Data	<ul style="list-style-type: none"> CTN001 mediated superior antibody-mediated function including ADCC, ADCP and CDC to HER2+ and HER-low tumor cells <div style="display: flex; justify-content: space-around;"> <div data-bbox="520 1665 1039 1961"> <p>ADCC (HER2-low SNU601)</p> </div> <div data-bbox="1081 1665 1522 1961"> <p>ADCP (Brest, gastric, lung cancer cells)</p> </div> <div data-bbox="1564 1665 2068 1961"> <p>CDC (Brest, gastric, lung cancer cells)</p> </div> </div> <i>In vivo</i> efficacy of H01(CTN001) in Her2-low and trastuzumab/Enhertu-resistant tumor models <div style="display: flex; justify-content: space-around;"> <div data-bbox="682 2092 1186 2478"> <p>SNU-5 (HER2-low GC)</p> </div> <div data-bbox="1375 2092 1984 2478"> <p>CT26-HER2^{low}</p> </div> </div> CTN001 shows a good manufacturability <table border="1" data-bbox="567 2582 1218 2730" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Melting temperature</th> <th>Trastuzumab</th> <th>Pertuzumab</th> <th>CTN001</th> </tr> </thead> <tbody> <tr> <td>T_m1 (Fc)</td> <td>68°C</td> <td>68°C</td> <td>66°C</td> </tr> <tr> <td>T_m2 (Fab)</td> <td>81°C</td> <td>79°C</td> <td>83°C</td> </tr> </tbody> </table> <p style="margin-left: auto; margin-right: auto; font-size: small;">Melting temperatures of trastuzumab, pertuzumab and CTN001 were analyzed by differential scanning fluorimetry.</p> <div data-bbox="1312 2552 1974 2819" style="margin-left: auto; margin-right: auto;"> <p style="text-align: center; font-size: small;">> 96% monomer purity with platform purification process</p> </div> 	Melting temperature	Trastuzumab	Pertuzumab	CTN001	T _m 1 (Fc)	68°C	68°C	66°C	T _m 2 (Fab)	81°C	79°C	83°C
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IP	ANTIGEN BINDING PROTEINS WITH TWO Fc DOMAINS AND USE THEREOF (WO2023068818, KR1020230060546)												