

PharmAbcine

(208340 KQ/Not Rated)

Watch for R&D events in 2H19

- An antibody therapeutics developer with an extensive pipeline
- Key candidates to watch: Tanibirumab and bispecific antibodies
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An antibody therapeutics developer with an extensive pipeline

Listed in November 2018, PharmAbcine is a biotech company specializing in the development of antibody therapeutics. The company's key pipeline includes Tanibirumab (brain tumor treatment) and a number of anti-cancer bispecific antibodies. For Tanibirumab, PharmAbcine completed a Phase 2a trial in Australia and is currently preparing a Phase 2 trial in the US. In January 2018, the company entered into a collaborative agreement with MSD to evaluate Tanibirumab in combination with Keytruda. Backed by its robust antibody technologies, the company is also jointly developing a next-generation CAR-T cell therapy with Curocell and a CAR-NK cell therapy with the Korea Research Institute of Bioscience and Biotechnology.

Key candidates to watch: Tanibirumab and bispecific antibodies

1) Tanibirumab

Tanibirumab, which is being developed as a treatment for recurrent glioblastoma (rGBM), targets vascular endothelial growth factor (VEGF) receptors to block the creation of new blood vessels and inhibit tumor growth and metastasis. A Phase 1 study showed stable disease (i.e., tumor not growing) in 60% of cancer patients, while a Phase 2a study in Australia showed a disease control rate (i.e., percentage of patients with tumors either not growing or shrinking) of 25%, reduced cerebral edema in 42% of patients, and reduced tumors in 25% of patients.

Particularly worth noting are the company's joint clinical trials with MSD for a Tanibirumab-Keytruda combination therapy. In January 2019, a Phase 1b study was initiated in Australia for patients with rGBM and metastatic triple negative breast cancer (mTNBC). The combination therapy is expected to boost the efficacy of Keytruda by leveraging Tanibirumab's ability to normalize tumor vessels.

Tanibirumab received orphan drug designation by the US FDA in early 2018, paving the way for the drug's potential early release following the completion of a Phase 2 study.

2) Bispecific antibodies

PharmAbcine has developed several antibody technologies, including DIG-body, a bispecific antibody platform, PIG-body, a bispecific antibody platform utilizing peptides, and TIG-body, a trispecific antibody platform that enhances the activity of T-cells by adding anti-CD3 to a bispecific antibody. Building upon these technologies, the company has developed an anti-cancer bispecific antibody pipeline consisting of a variety of combinations. Among them, the most advanced candidate is PMC-001, which simultaneously targets VEGFR2 and Tie2. PMC-001 is currently in the preclinical stage, and MSD has been conducting an efficacy evaluation since August 2018.

FY (Dec.)	12/14	12/15	12/16	12/17	12/18	12/19F
Revenue (Wbn)	2	2	0	0	0	2
OP (Wbn)	-2	-3	0	-4	-7	-6
OP margin (%)	-100.0	-150.0	-	-	-	-300.0
NP (Wbn)	-3	-3	0	-6	-7	-6
EPS (W)	-935	-675	0	-1,284	-1,172	-807
ROE (%)	-50.4	-60.1	0.0	-284.3	-20.6	-8.8
P/E (x)	-	-	-	-	-	-
P/B (x)	-	-	-	-	8.4	7.8
Dividend yield (%)	-	-	-	-	0.0	0.0

Note: All figures are based on consolidated K-IFRS; NP refers to net profit attributable to controlling interests
Source: Company data, Mirae Asset Daewoo Research estimates

Watch for R&D events in 2H19

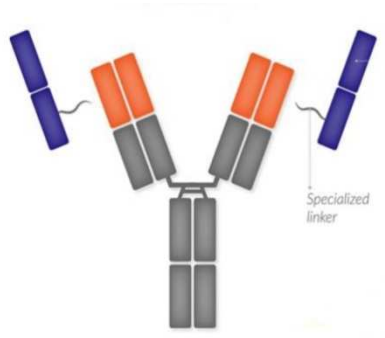
One of the biggest R&D events expected in 2H19 is the announcement of the results of MSD's ongoing efficacy evaluations. After signing a deal with PharmAbcine in June 2018, MSD initiated year-long evaluations of three of the company's candidates, including PMC-001, in August 2018. The results are expected to come out after the tests are concluded in August 2019. Another event to watch is the expected completion of the Phase 1b trial for the Tanibirumab-Keytruda combination therapy this year.

Table 1. PharmAbcine pipeline

Category	Pipeline	Indication	Phase	Notes
Monoclonal antibody	Tanibirumab (anti-VEGFR2)	Recurrent brain cancer Relapsing Avastin-resistant brain tumor	Phase 2 clinical trial (Australia) Phase 2 clinical trial (US, Australia)	Phase 2a clinical trial completed in Australia US Phase 2 clinical trial IND approved
	Tanibirumab, Keytruda (anti-VEGFR2, anti-PD1)	Relapsing brain tumor Metastatic triple negative breast cancer	Phase 2 clinical trial (Australia) Phase 2 clinical trial (Australia)	
	PMC-309 (anti-VISTA)	Tumor	Lead compound in development	
	PMC-402 (anti-Tie2)	Tumor	Lead compound in development	
	PMC-401 (anti-ANG2)	Anti-cancer drug-resistant tumor	Lead compound in development	
	PMC-401S (anti-ANG2)	Age-related macular degeneration, diabetes retinopathy	Lead compound in development	
Double antibody	PMC-001 (anti-VEGFR2&Tie2)	Tumor	Nonclinical study in progress	
	PMC-201 (anti-VEGFR2&DLL4)	Tumor	Nonclinical study in progress	
	PMC-122 (anti-PD-L1&CD47)	Tumor	Lead compound in development	
	PMC-002, PMC-002R (anti-VEGFR2&Tie2)	Tumor	Lead compound in development	
Biosimilar	PMC-901 (anti-VEGF-A)	Tumor	Nonclinical study in progress	Avastin biosimilar
	PMC-902 (anti-VEGF, PlGF)	Age-related macular degeneration, diabetes retinopathy	Nonclinical study in progress	Eylea biosimilar
CAR-T/NK	PMC-005BL (anti-EGFRvIII)	Tumor, ADC Tumor, CAR-T/NK	Lead compound in development Lead compound in development	

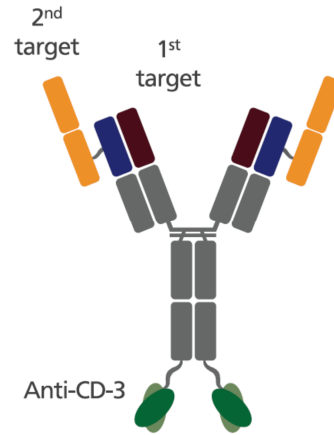
Source: Mirae Asset Daewoo Research

Table 1. The double-antibody structure of PharmAbcine



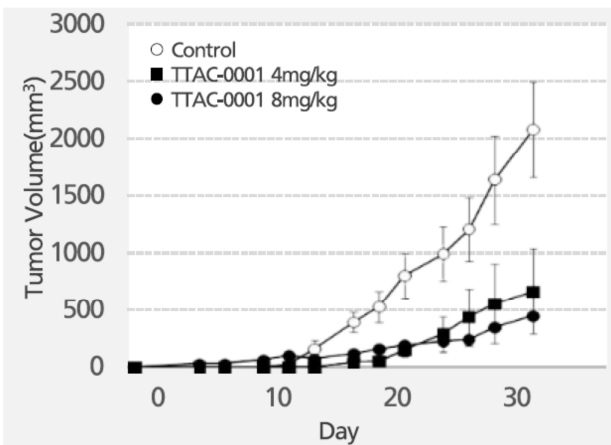
Source: PharmAbcine, Mirae Asset Daewoo Research

Table 2. The triple (multiple)-antibody structure of PharmAbcine



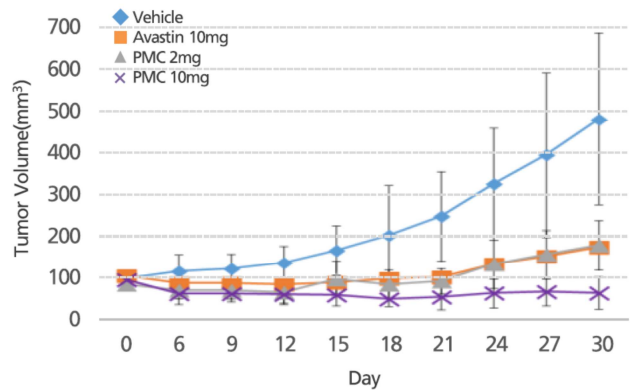
Source: PharmAbcine, Mirae Asset Daewoo Research

Table 3. The efficacy of Tanibirumab targeting colorectal cancer in animal testing



Source: PharmAbcine, Mirae Asset Daewoo Research

Table 4. The efficacy of double-antibody PMC-001 targeting TNBC in animal testing



Source: PharmAbcine, Mirae Asset Daewoo Research

APPENDIX 1

Important Disclosures & Disclaimers

Equity Ratings Distribution & Investment Banking Services

	Buy	Trading Buy	Hold	Sell
Equity Ratings Distribution	83.52%	8.24%	8.24%	0.00%
Investment Banking Services	82.61%	4.35%	13.04%	0.00%

* Based on recommendations in the last 12-months (as of March 31, 2019)

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