

# Grape King Bio (1707 TT)

## Flash Note

Botanical new drug development: USFDA IND applied



- **Development of botanical new drug to enlarge TAM and entry barriers.**

According to US Federal and Drug Administration (USFDA), botanical new drug is defined as compound extracted from one/multiple plants, bacteria or alga to diagnose, cure, alleviate or prevent diseases. Botanical new drug will grow at 6.1% CAGR from USD29.4bn in 2017 to USD39.6bn in 2022 according to BCC Research.


Figure 1: An Antrodia



GK has been focusing on selected plants particularly Antrodia (a genus of fungi in the family Fomitopsidaceae) as ingredient to develop botanical new drug. GK's proprietary fermentation know-how is essential for developing botanical new drug, as it enables company to secure ingredient, collect experimental data and control production quality. Antrodia's effect on liver protection has been proven successful according to numerous papers published by medical journals. The total addressable market (TAM) for Antrodia-related drug for nonalcoholic fatty liver diseases (NAFLD) is forecast to reach USD35~40bn by 2025 according to EvaluatePharma. If including health food market, TAM is likely to reach USD100bn. In US alone, there are approximately 46m NAFLD patients, according to Hepatology.

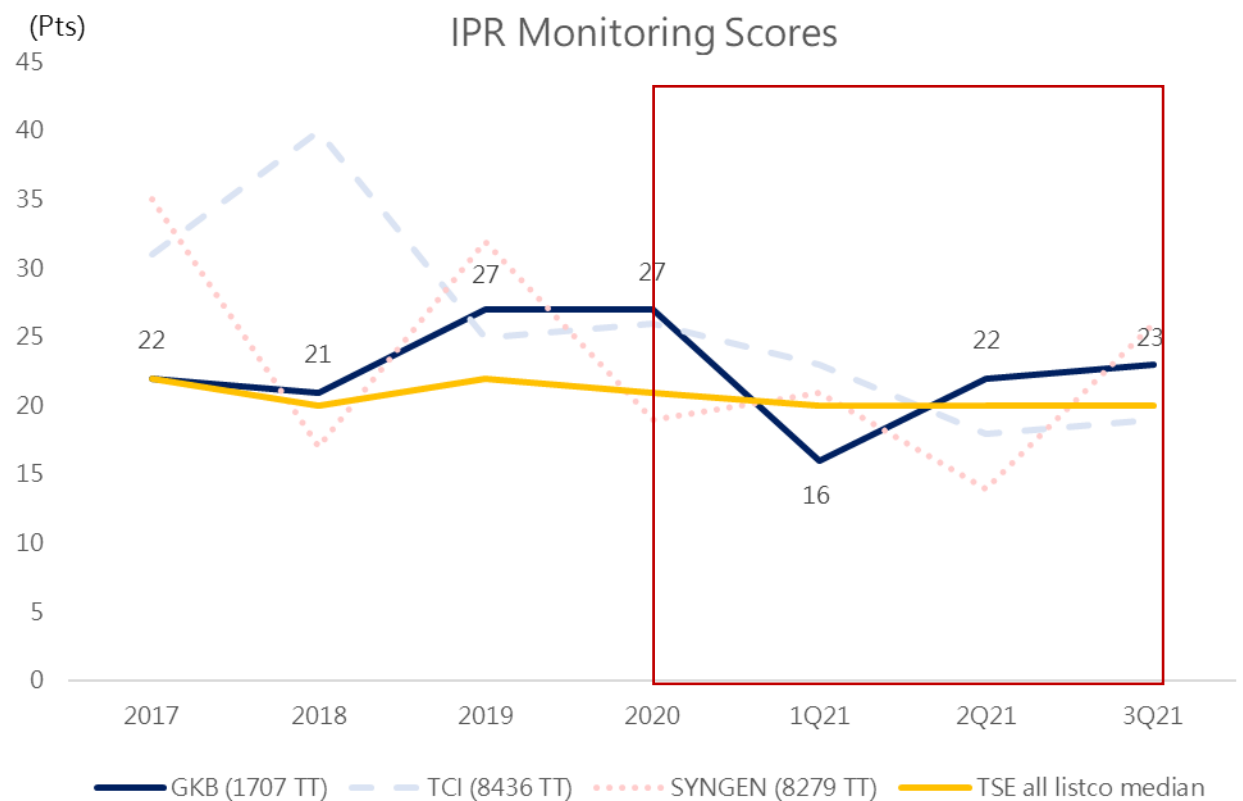
On February 11, 2022, GK announced to apply own-developed botanical new drug named "GKAC" for Investigational New Drug (IND) with USFDA, an effort to take the lead in Taiwan, widening the competition gap with the subsequent entrants. The result of the USFDA investigation is expected to be announced in two to six weeks. Before passing all clinical trials, GK can still sell Antrodia-based products as health food.

Figure 2: GK's schedule of developing botanical new drug

Short-Term	1. Determine the botanical new drug research object (Antrodia, Hericium Erinaceus or Cordyceps Sobolifera) 2. Research on botanical new drug's chemistry, manufacture and control (CMC).
 Mid-Term	1. Determine CMC and undergo non-clinical trial. 2. Apply for Investigational New Drug (IND).
Long-Term	1. Apply for Phase I clinical trial. 2. Apply for Phase II clinical trial.

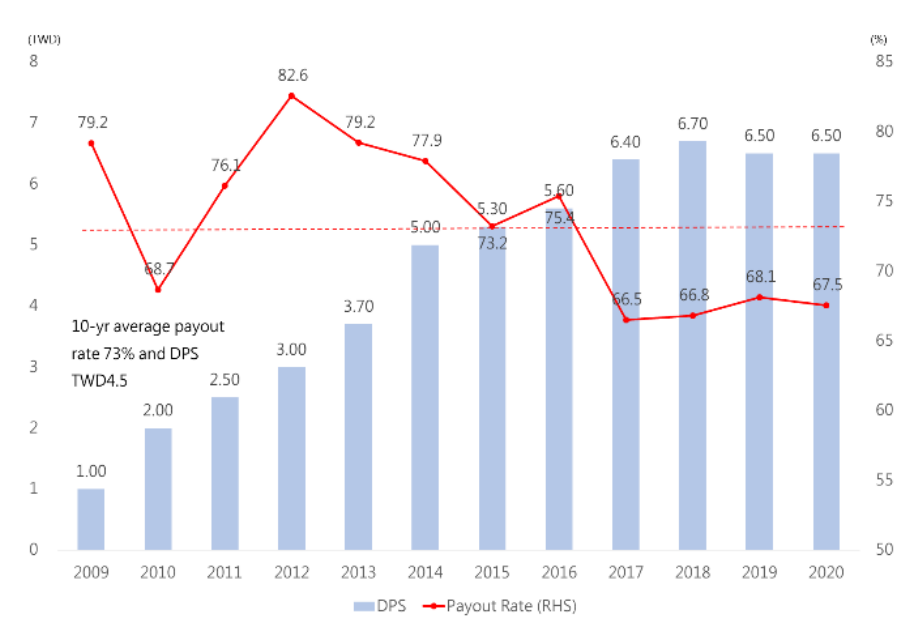
- **IPR's proprietary scoring system shows GK consistently above Taiwan listco median.** The IPR Monitoring Scores are derived from bottom-up stock selection criteria powered by big-data with statistical importance. GK's IPR monitoring scores on annual basis have been higher than Taiwan listco median since 2017 due to its high margins. The boxed section shows sequential changes, with 2021 full year scores available after the 4Q21 financial reporting season.

Figure 3: GK's IPR Monitoring Scores



- **Ample free cash flow to support future dividend payout and digital investment.** GK's free cash flow has been positive since the past 10 years, except in 2015 when GK invested in Pro-Partner's new headquarter and new capacities in Taiwan and Shanghai plants. Ample free cash flow enables GK's to undergo future investment and pay out as dividends. GK's average dividend payout ratio is 73% for the past 10 years and the dividend yield of 3% could provide downside support.

**Figure 4: High payout-ratio and rising DPS**



**Figure 5: Positive free cash flow since 2016**

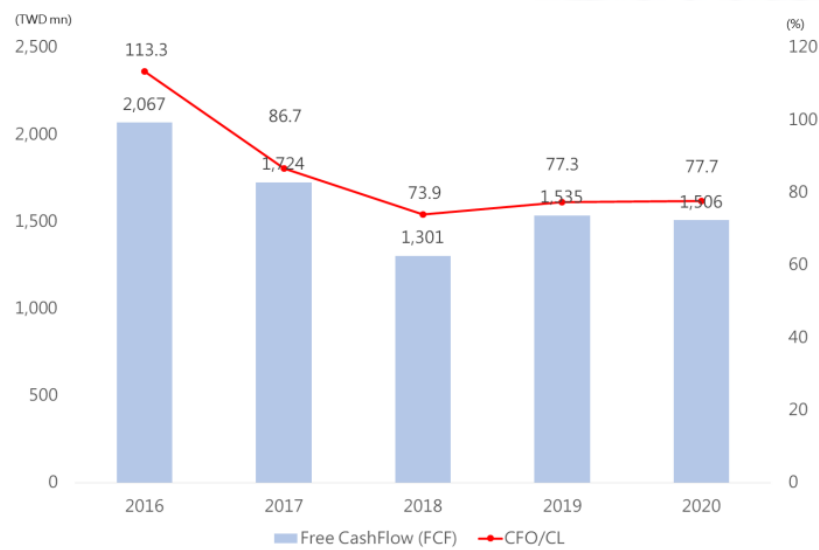
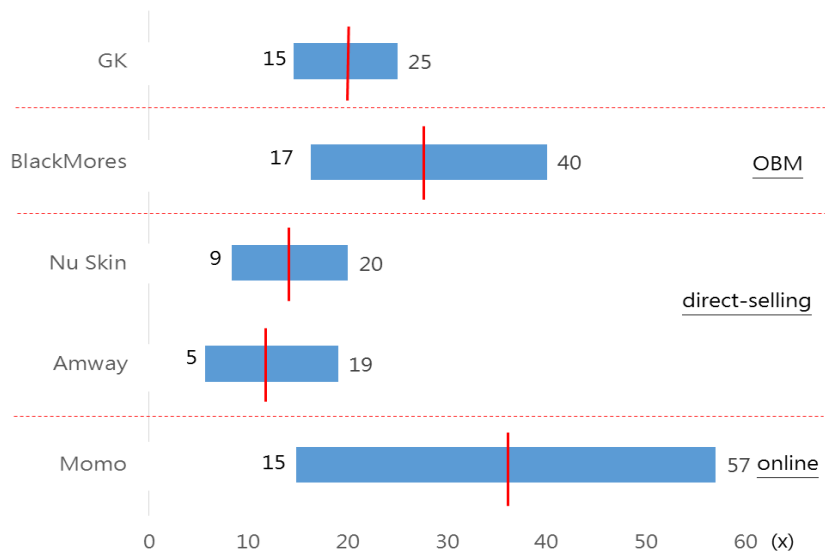


Figure 6: Peers forward P/E range since 2013



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