

미세조류유래 바이오연료 연구 개발의 최근 국내 동향(The current status of microalgal biofuels R&D in Korea)

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Microalgae have been considered to be a new alternative biomass to conventional biofuel crops due to their higher productivity. As the largest consortium in Korea (~US\$100 million), Advanced Biomass R&D Center has been focusing its efforts to develop new breakthrough technologies in the entire value chain for the production of microalgae-based biofuels and bioproducts since 2010. Among the various technical breakthroughs, the advancement in algal biology is considered to be the key to make the algal biofuels economic and sustainable. The member laboratories of ABC have been developing strains with high biomass, lipid productivity, and stress-tolerance. For downstream processes, we have developed a low-energy harvest system that is based on electrochemical flocculation/floatation. We also developed several new direct oil extraction and conversion process using wet biomass. (This work was supported by the Advanced Biomass R&D Center of Korea Grant funded by the Ministry of Science, ICT and Future (ABC-2011-K000908).