



Technology to boost Erythropoietin and Darbepoetin production

TECHNOLOGY AVAILABLE FOR TRANSFER

UNMET NEED & OPPORTUNITY

Erythropoietin (EPO) is used in many clinical settings for anaemic patients. Increasing incidence of chronic diseases such as end-stage renal diseases, cancer, and HIV is expected to accelerate demand for EPO as these diseases may cause anemia. A second-generation erythropoietin analogue, Darbepoetin alpha, was created aiming longer elimination half-life in vivo that translated into less frequent dosing, usually once weekly or once every 2 week. EPO and Darbepoetin drugs market size was valued at USD 7.4 billion in 2016 and is expected to witness CAGR of 11.5% during 2018-2025 as a result of global rising incidence of anemia.¹ Present technology provides a booster kit to enhance the production of EPO and Darbepoetin proteins.

TECHNOLOGY

The technology offers a novel formulation and kit for the enhancement of EPO and Darbepoetin protein. The formulation upon application to existing Chinese Hamster Ovarian or Human Embryonic Kidney (CHO/HEK) producer clones will result in increased final production of EPO and Darbepoetin protein by upto 300% with in 2-3months. Isolated EPO and Darbepoetin proteins conformation remain unaffected till higher passages of the cloned cells. The increased amounts of both the proteins have been tested in a longitudinal study till 20 passages and were found to be stable.

INTELLECTUAL PROPERTY

- Patent application filed in India in 2017.

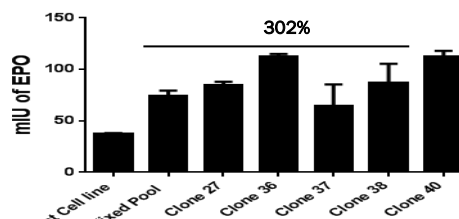
1. <https://www.grandviewresearch.com/industry-analysis/erythropoietin-epo-drugs-market>

UNIQUE SELLING PROPOSITION

- 250-300% enhanced production in Industrial and R&D settings
- Enhanced protein production effective up-to 20 passages
- Production cost is reduced by three times as compared to predicates

STAGE OF DEVELOPMENT

- Proof of concept is established in lab set-up
- Validated in-house



Effect of booster kit on EPO production in cloned CHO cells as compared to parent cells

APPLICATIONS

- Enhanced production of EPO and Darbepoetin

LICENSING OPPORTUNITY

BCIL is looking for a suitable industrial partner for commercialization of Booster Kit.

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