

GENERAL DESCRIPTION

StemCell2MAX™ Mix (100x) contains a combination of recombinant glial-derived neurotrophic factors, hematopoietic cytokines (SCF, TPO and FLT3L) and other additives designed to selectively promote the survival and expansion of hematopoietic stem cells (HSC) and undifferentiated blood progenitors in culture¹. **StemCell2MAX™** Mix is intended for culture/expansion of mouse HSC (Lin⁻Sca¹cKit⁺CD150⁺CD48⁻) and human cord blood CD34⁺ progenitor cells (Fig.1). It is supplied in a 100x formula that must be used with an appropriate medium for culturing hematopoietic cells.

StemCell2MAX™ will not be liable for any special, direct, indirect, incidental or consequential damages, losses, costs or expenses, lost profits, failure to realize expected savings, any economic losses of any kind, any loss or damage to property, any personal injury, any damage or injury arising from or as a result of misuse or abuse, or the improper storage, use beyond expiration date, accidental damage to the product or any costs arising from the use, the results of use, or the inability to use the product.

BACKGROUND

The glial cell line-derived neurotrophic factor (GDNF) family ligands (GFL), includes GDNF and three related GFL proteins. All GFLs signal through the RET tyrosine kinase receptor and the specificity of the GFL/RET signaling axis is determined by one of the four GDNF family α co-receptors (GFR α), anchored to cell surface by a glycosylphosphatidylinositol (GPI) link. GFR α -mediates signaling in *cis* and in *trans* that controls cell survival, among others, in central and peripheral neurons and HSC^{2,3}.

PRODUCT DETAILS

For mouse expansion of hematopoietic stem cells: **StemCell2MAX™** HSCMixM contains: 100 X concentrated Stem Cells Factor (mSCF), Thrombopoietin (mTPO), and glial cell-derived neurotrophic factors in sterilized phosphate buffer solution. HSCMixM is available in 200 μ L, 500 μ L and 1 mL.

For human hematopoietic stem cells: **StemCell2MAX™** HSCMixH contains: 100 X concentrated Stem Cells Factor (hSCF), Thrombopoietin (hTPO), Fms-like tyrosine kinase 3 (hFLT3L) and glial cell-derived neurotrophic factors in sterilized phosphate buffer solution. HSCMixH is available in 200 μ L, 500 μ L and 1 mL.

SHIPPING, STABILITY AND STORAGE

The product is shipped in dry ice.
Avoid repeated freeze-thaw cycles.
▪ Use within 1 month | 2 to 8°C.
▪ Use within 3 months | -20 to -80°C.

HANDLING

After thawing **StemCell2MAX™** Mix must be added to a hematopoietic cell expansion medium of choice

BATCH CODE: Refer to vial

USE BY: Refer to vial

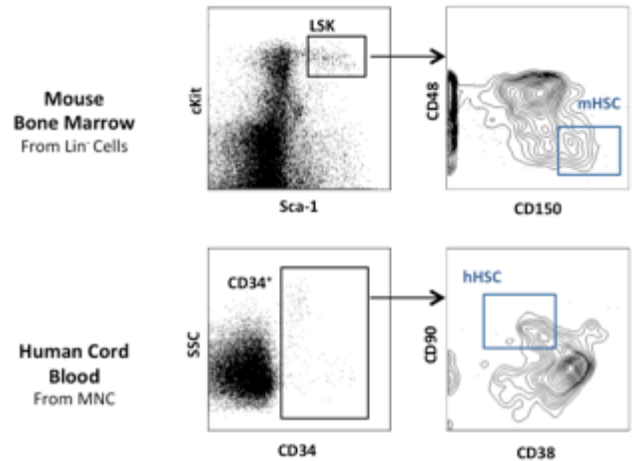
FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.

REFERENCES

¹Fonseca-Pereira, D., Arroz-Madeira, S., Campos, M., Barbosa, I., Domingues, R. G., Almeida, A. R. M., Ribeiro, H., Enomoto, H., Potocnik, A. and Veiga-Fernandes, H. "The neurotrophic factor receptor RET drives haematopoietic stem cell survival and function", *Nature* 514, 2014

²Patel, A., Harker, N., Moreira-Santos, L., Ferreira, M., Alden, K., Timmis, J., Foster, K., Garefalaki, A., Pachnis, P., Andrews, P., Enomoto, H., Milbrandt, J., Pachnis, V., Coles, M.C., Kioussis, D., Veiga-Fernandes, H. "Differential RET signaling pathways drive development of the enteric lymphoid and nervous systems", *Science Signaling* 5, 2012.

³Mulligan, L.M. "RET revised: expanding the oncogenic portfolio", *Nature Reviews Cancer* 14, 2014.



StemCell2MAX™ selectively targets survival and expansion of mouse bone marrow HSC (Lin⁻Sca1⁺cKit⁺CD150⁺CD48⁻) and human cord blood progenitors (CD34⁺).

MAJOR ADVANTAGES

- Designed to selectively promote survival and expansion of mouse HSC and human cord blood CD34⁺ progenitors
- Fully compatible with commercial serum-free media on the market
- Supplied in 3 volumes of 100x concentrate, which fit different culture volume requirements
- Only requires one final dilution step in a hematopoietic cell expansion medium of choice before usage

MAJOR APPLICATIONS

- Culture/expansion of mouse and human hematopoietic stem and progenitor cells
- *In vitro* drug screening in human and mouse hematopoietic progenitors
- **StemCell2MAX™** Mix triggers cell cycle of hematopoietic progenitor and can therefore be used for studies requiring active progenitor proliferation
- Increase the number of mouse and human stem and immature progenitor cells prior to transplantation into adequate host recipients