

# RHB-A® & RHB-Basal®

Media of Choice for Adherent & Organotypic  
Neural Stem Cell Culture



**SC Proven®** Cell Culture Products undergo rigorous quality control procedures before release. The SC Proven stamp is your assurance that every product bearing our trademark meets impeccable quality standards.

**RHB-A** is a proprietary, defined, serum-free cell culture medium that has been specifically formulated for the culture of pure populations of adherent human and mouse NS cells. This optimized medium ensures the stable maintenance of NS cell differentiation capacity after prolonged culture *in vitro*<sup>1</sup>.

RHB-A has also been demonstrated to:

- Support the differentiation of human and mouse NS cells into functional neurons, with recorded neuronal differentiation of greater than 40%<sup>1,2,9</sup>
- Improve the efficiency of neural differentiation of mouse embryonic stem (ES) cells in monolayer culture with recorded differentiation to greater than 80% neural precursors<sup>4,7,8</sup>
- Derive, maintain and expand human glioblastoma stem cell lines<sup>6</sup>
- Culture primary human brain tissue *in vitro* with radial glia derived neurogenesis<sup>9</sup>



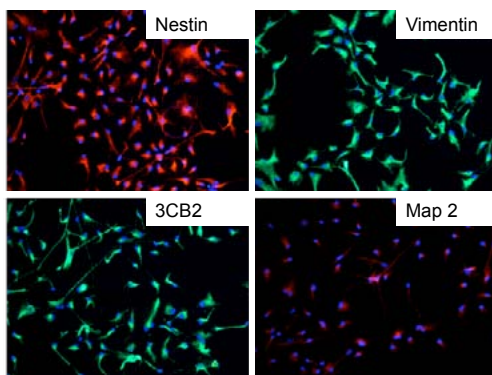
## Applications

### Neural Cell Culture

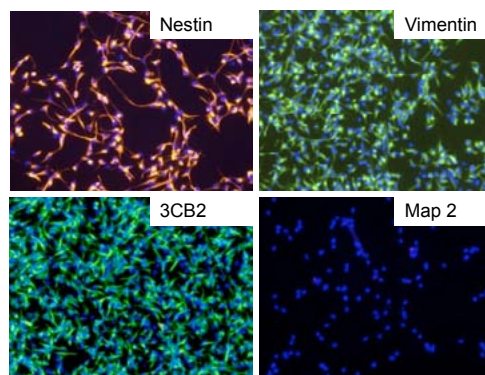
For the derivation, maintenance and expansion of adherent human and mouse NS cells<sup>1,3,5</sup>, RHB-A should be supplemented with Epidermal Growth Factor (EGF) and Fibroblast Growth Factor-2 (FGF-2). Key performance attributes of RHB-A include:

- Maintenance of adherent NS cells at  $\geq 99\%$  purity
- Continual propagation of NS cells without loss of neurogenic capacity<sup>1</sup>

Human NS cells



Mouse NS cells



## To Order...

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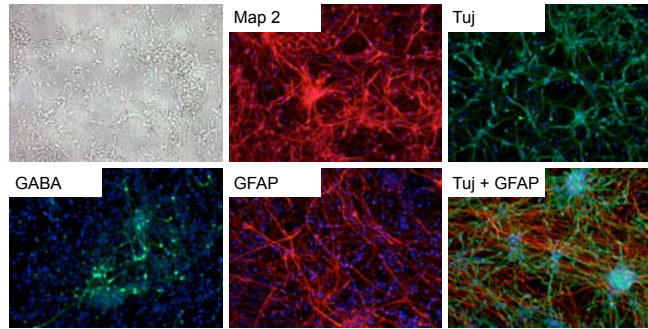
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## Neural Differentiation

### NS to neurons

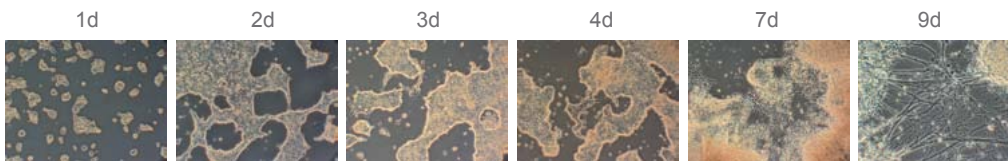
Sequential withdrawal of the EGF and the FGF-2 growth factor supplements from RHB-A can enable the efficient differentiation of greater than 40% of adherent human NS and mouse NS cells into neurons<sup>1,2</sup>.



Differentiated human NS cells

### ES to neurons

The use of RHB-A without growth factor supplements has been shown to enable improved differentiation of mouse ES cells when plated in adherent monolayer conditions<sup>4,7</sup>. Efficiencies of greater than 80% differentiation of mouse ES cells into neural precursors have been recorded.



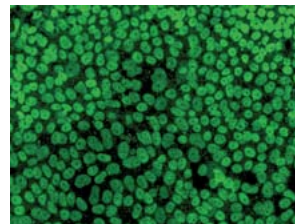
Monolayer differentiation of ES cells to neurons

### Glioblastoma Stem Cell Culture

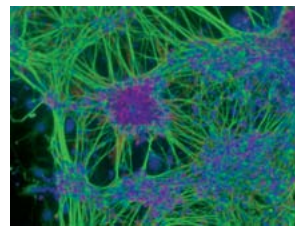
RHB-A has been demonstrated to support the maintenance and expansion of glioblastoma stem cells when supplemented with EGF and FGF-2<sup>6</sup>.

### RHB-Basal

To provide maximum flexibility for your research needs, we also provide a basal formulation of the RHB-A medium called RHB-Basal. This proprietary basal formulation does not contain any neuronal supplements, thereby enabling you to tailor RHB-Basal to suit the specific requirements of your cell type through the addition of your choice of supplements.



ES cells



ES-derived neurons

## References

- 1 Sun Y, et al. (2008) Long-term tripotent differentiation capacity of human neural stem (NS) cells in adherent culture. *Molecular and Cellular Neuroscience* 38:245-258
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- 5 Pollard SM, et al. (2008) Fibroblast growth factor induces a neural stem cell phenotype in foetal forebrain progenitors and during embryonic stem cell differentiation. *Molecular and Cellular Neuroscience* 38:393-403
- 6 Pollard SM, et al. (2009) Glioma stem cell lines expanded in adherent culture have tumor-specific phenotypes and are suitable for chemical and genetic screens. *Cell Stem Cell* 4:568-580.
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- 9 Hansen DV, et al. (2010) Neurogenic radial glia in the outer subventricular zone of human neocortex. *Nature* 464(7288): 554-561