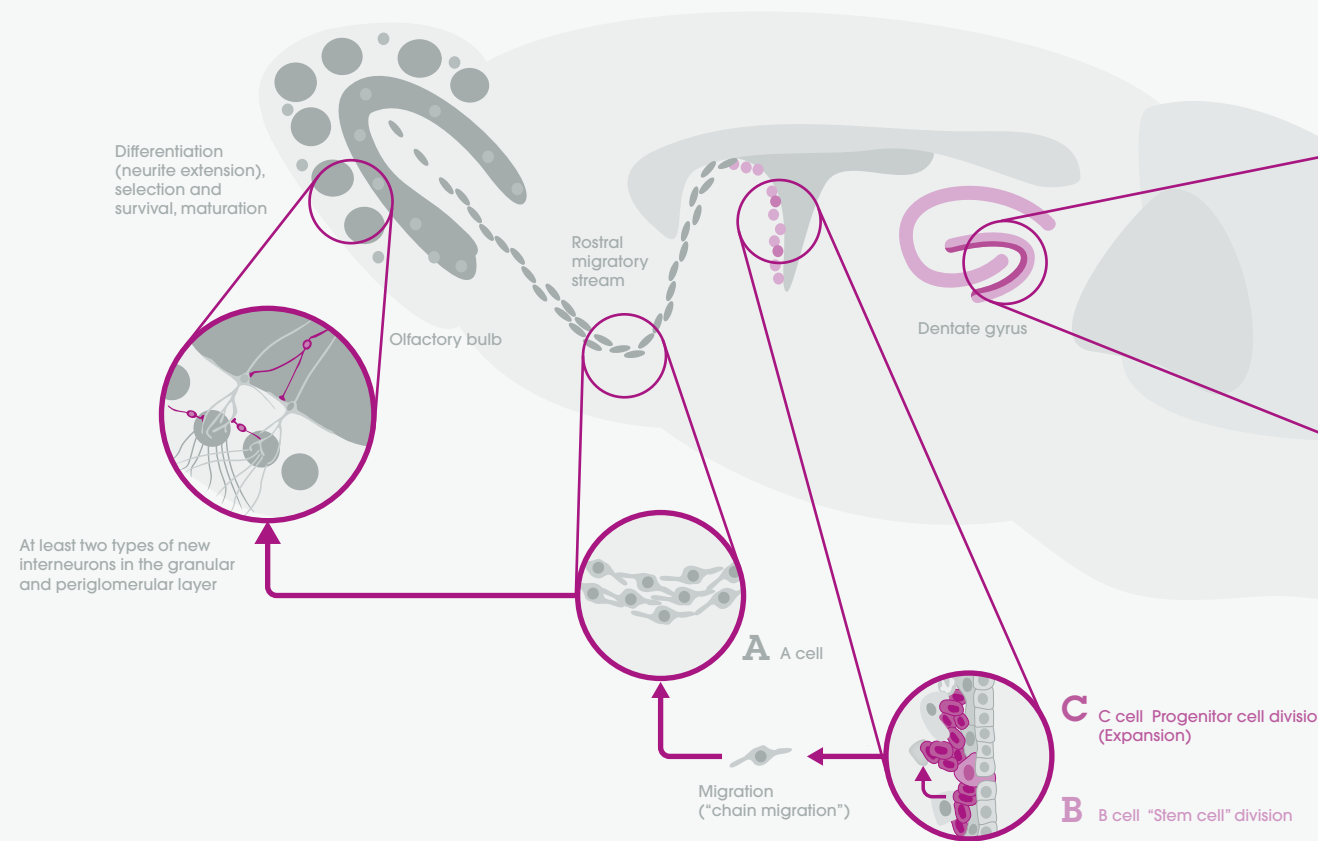


Adult neurogenesis

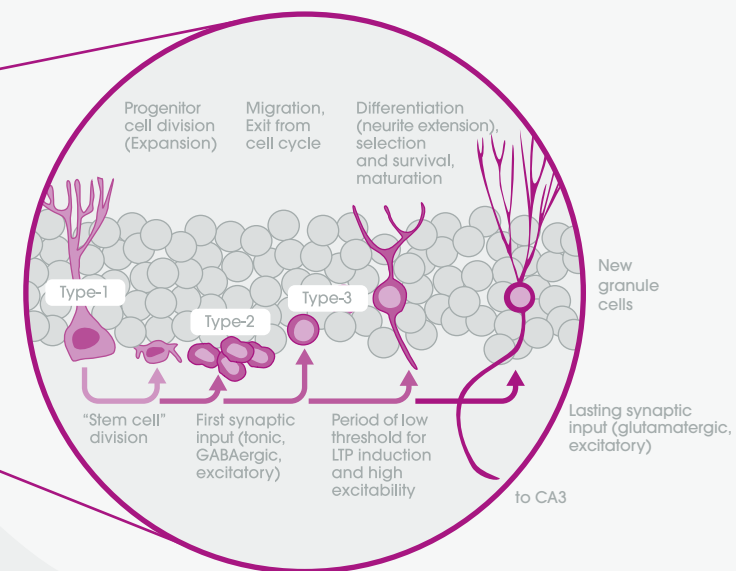
By Gerd Kempermann* and Abcam

abcam

Neurogenesis in the adult olfactory bulb



Neurogenesis in the adult hippocampus



Suggested readings

(Please note: only recent reviews are listed)

Patric D, Logace DC, Eisch AJ. The neurogenesis hypothesis of affective and anxiety disorders: are we mistaking the scaffolding for the building? *Neuropharmacology*. 2012 Jan;62(1):21-34. PubMed PMID: 21945290.

Wojtowicz JM. Adult neurogenesis: From circuits to models. *Behav Brain Res*. 2012 Feb 14;227(2):490-6. PubMed PMID: 21893104.

Marín-Burgin A, Schinder AF. Requirement of adult-born neurons for hippocampus-dependent learning. *Behav Brain Res*. 2012 Feb 14;227(2):391-9. PubMed PMID: 21763727.

Ming GL, Song H. Adult neurogenesis in the mammalian brain: significant answers and significant questions. *Neuron*. 2011 May 26;70(4):687-702. PubMed PMID: 21609825.

Alimone JB, Deng W, Gage FH. Resolving new memories: a critical look at the dentate gyrus, adult neurogenesis, and pattern separation. *Neuron*. 2011 May 26;70(4):589-96. PubMed PMID: 21609818.

Morrens J, Van Den Broeck W, Kempermann G. Glial cells in adult neurogenesis. *Glia*. 2012 Feb;60(2):159-74. PubMed PMID: 22076934.

Kempermann G. Seven principles in the regulation of adult neurogenesis. *Eur J Neurosci*. 2011 Mar;33(6):1018-24. PubMed PMID: 21395844.

Hodge RD, Hevner RF. Expression and actions of transcription factors in adult hippocampal neurogenesis. *Dev Neurobiol*. 2011 Aug;71(8):680-9. PubMed PMID: 21412988.

Samuels BA, Hen R. Neurogenesis and affective disorders. *Eur J Neurosci*. 2011 Mar;33(6):1152-9. PubMed PMID: 21395859.

Koehl M, Abrous DN. A new chapter in the field of memory: adult hippocampal neurogenesis. *Eur J Neurosci*. 2011 Mar;33(6):1101-14. PubMed PMID: 21395854.

Nissant A, Pallotto M. Integration and maturation of newborn neurons in the adult olfactory bulb—from synapses to function. *Eur J Neurosci*. 2011 Mar;33(6):1069-77. PubMed PMID: 21395850.

Robel S, Berninger B, Götz M. The stem cell potential of glia: lessons from reactive gliosis. *Nat Rev Neurosci*. 2011 Feb;12(2):88-104. PubMed PMID: 21248788.

Lazarini F, Lledo PM. Is adult neurogenesis essential for olfaction? *Trends Neurosci*. 2011 Jan;34(1):20-30. PubMed PMID: 20980064.

Alimone JB, Deng W, Gage FH. Adult neurogenesis: integrating theories and separating functions. *Trends Cogn Sci*. 2010 Jul;14(7):325-37. PubMed PMID: 20471301.

Paihanian M, Yan LD, Bordey A. A symphony of signals conducts early and late stages of adult neurogenesis. *Neuropharmacology*. 2010 May;58(6):865-76. PubMed PMID: 20097213.

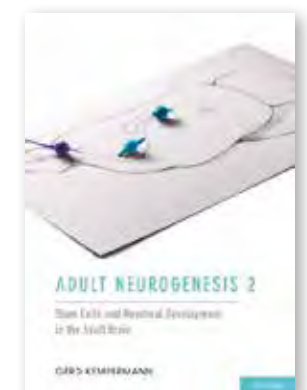
Suh H, Deng W, Gage FH. Signaling in adult neurogenesis. *Annu Rev Cell Dev Biol*. 2009; 25:253-75. PubMed PMID: 19575663.

The author*

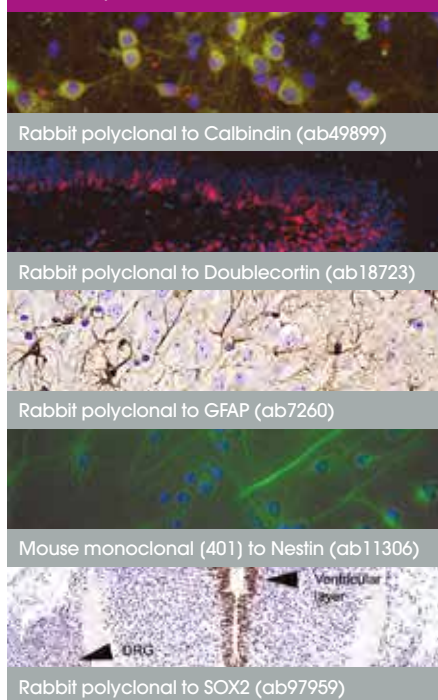
Gerd Kempermann, born 1965, has been working on adult hippocampal neurogenesis since 1995. His main interests are the activity-dependent control of adult neurogenesis, the genetic complexity underlying this control, and the functional contribution of the newborn neurons to the hippocampal network. He is Professor for Genomics of Regeneration at the CRTD - the DFG Research Center for Regenerative Therapies Dresden, Germany, and speaker of the Dresden site of the German Center for Neurodegenerative Disease (DZNE). The author would like to thank Sebastian Jessberger for comments on the draft of this poster.

The book

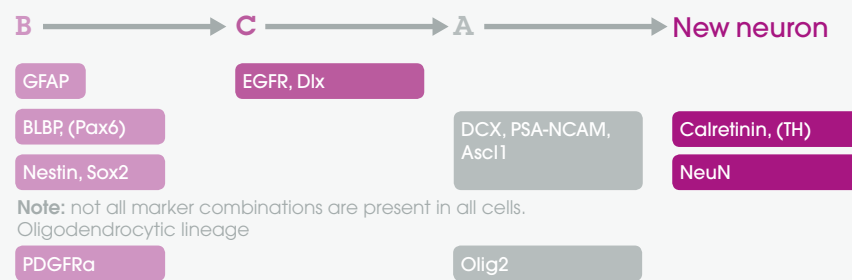
Gerd Kempermann's monograph on adult neurogenesis is now in its second updated edition ("Adult Neurogenesis 2 - Stem cells and neuronal development in the adult brain", Oxford University Press, New York 2011, ISBN 978-0-19-972969-2). The book has received the "BMA Medical Book of the Year 2011" award.



Featured products

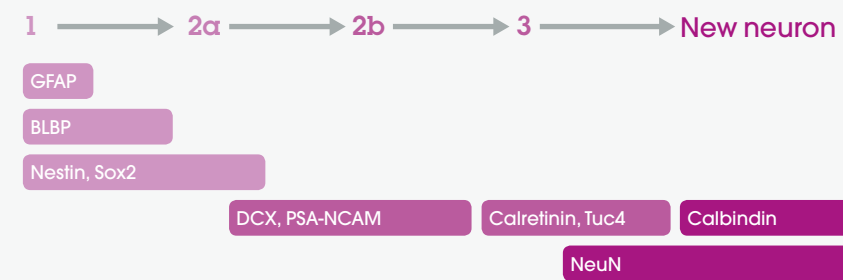


Simplified sequence of marker expression



Product name	Purity	Brief biological description	Product code
NBQX disodium salt	>98%	AMPA / kainate antagonist; water soluble	ab120046
Kainic acid	>99%	Prototypic kainate receptor agonist	ab120100
DL-AP5 sodium salt	>99%	NMDA glutamate site antagonist	ab120271
Bicuculline	>98%	GABAA antagonist	ab120110
Muscimol	>99%	Potent, selective GABAA agonist	ab120094
Picrotoxin	-	GABAA antagonist	ab120315

Simplified sequence of marker expression



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