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Virus infections as risk factors in the development of bronchopulmonary dysplasia (BPD)

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Munich

18.12.2018

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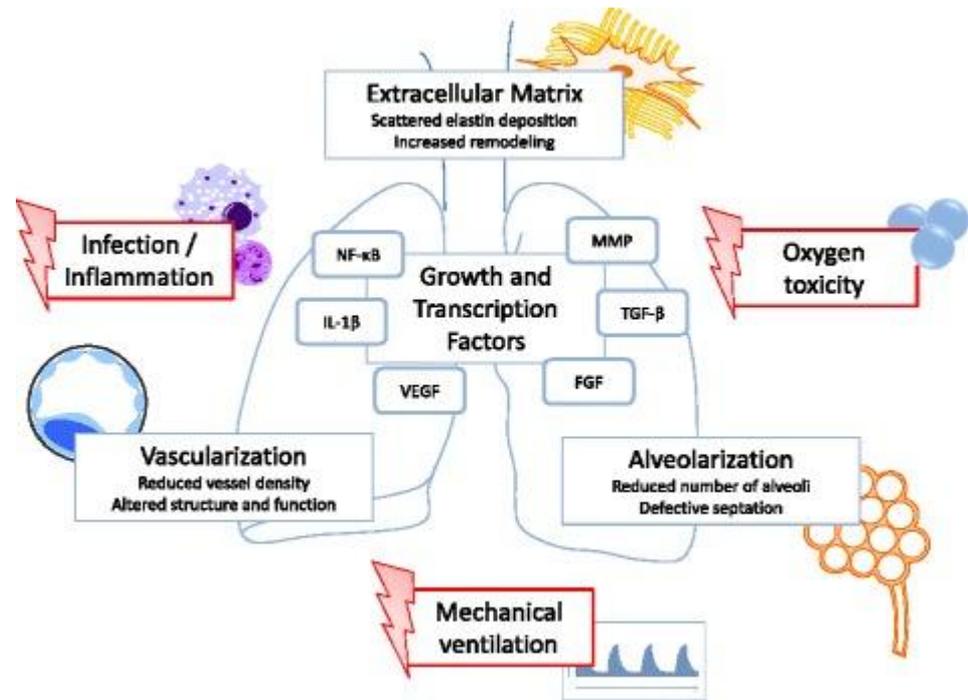
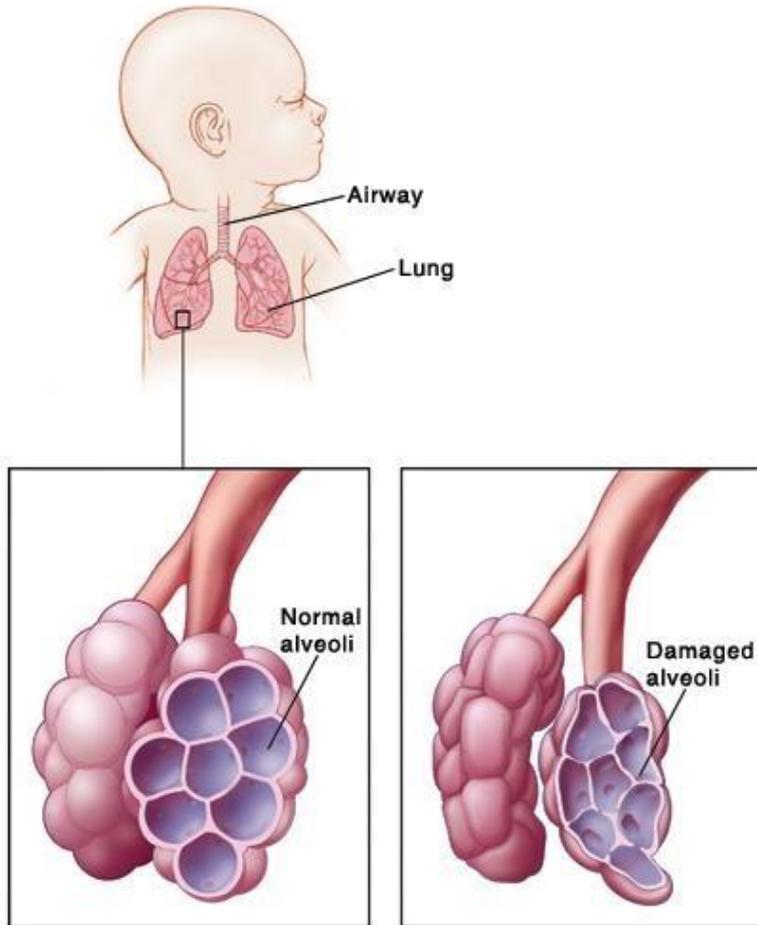
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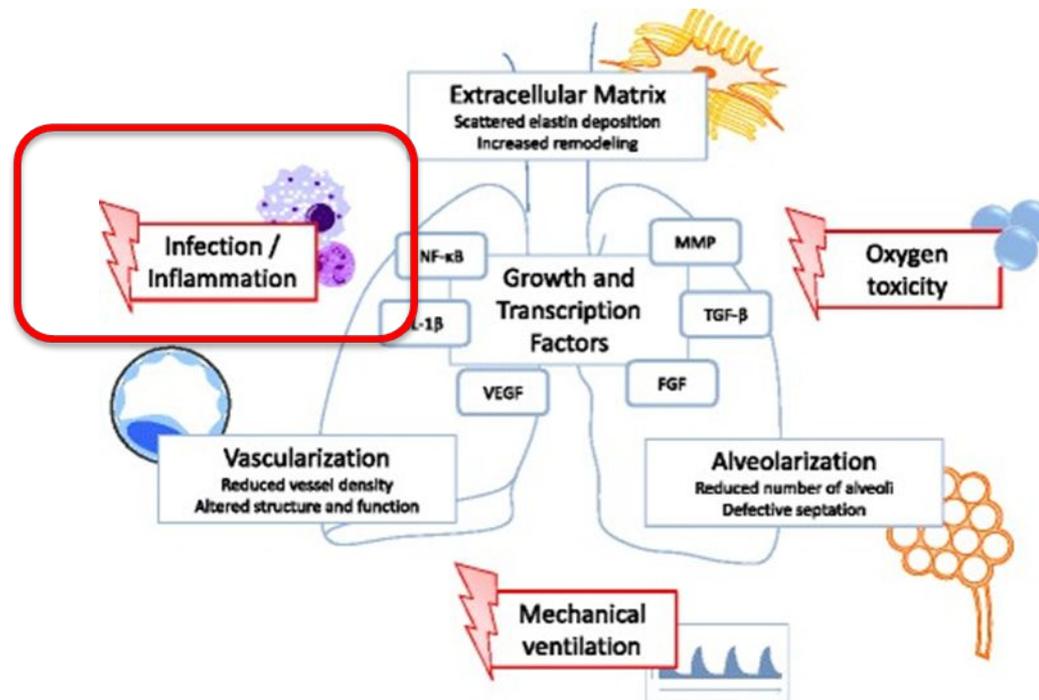
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Bronchopulmonary dysplasia (Chronic neonatal lung disease)



Aim

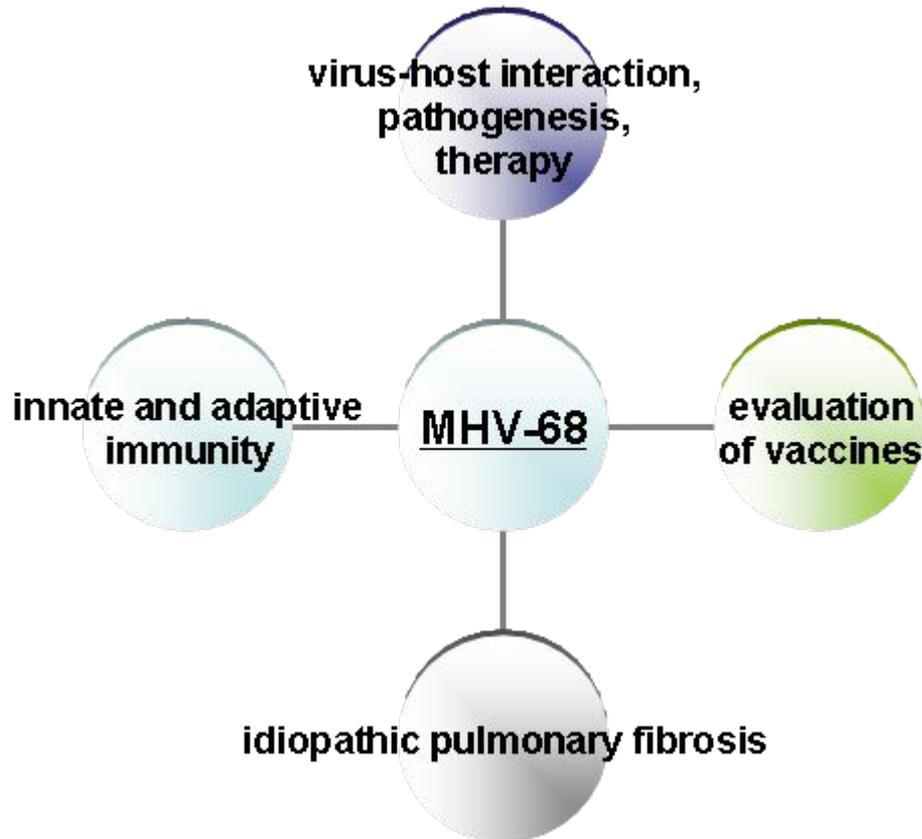
By usage of the new in vitro and in vivo models to investigate how viral infections may determine the development of BPD in short and long-term studies



Hypothesis

- 1. There is an effect of viral infection on the development of BPD.
- 2. The mechanism of the effect could be established.
- 3. New targets for interference with the disease might be found.

Viral infection



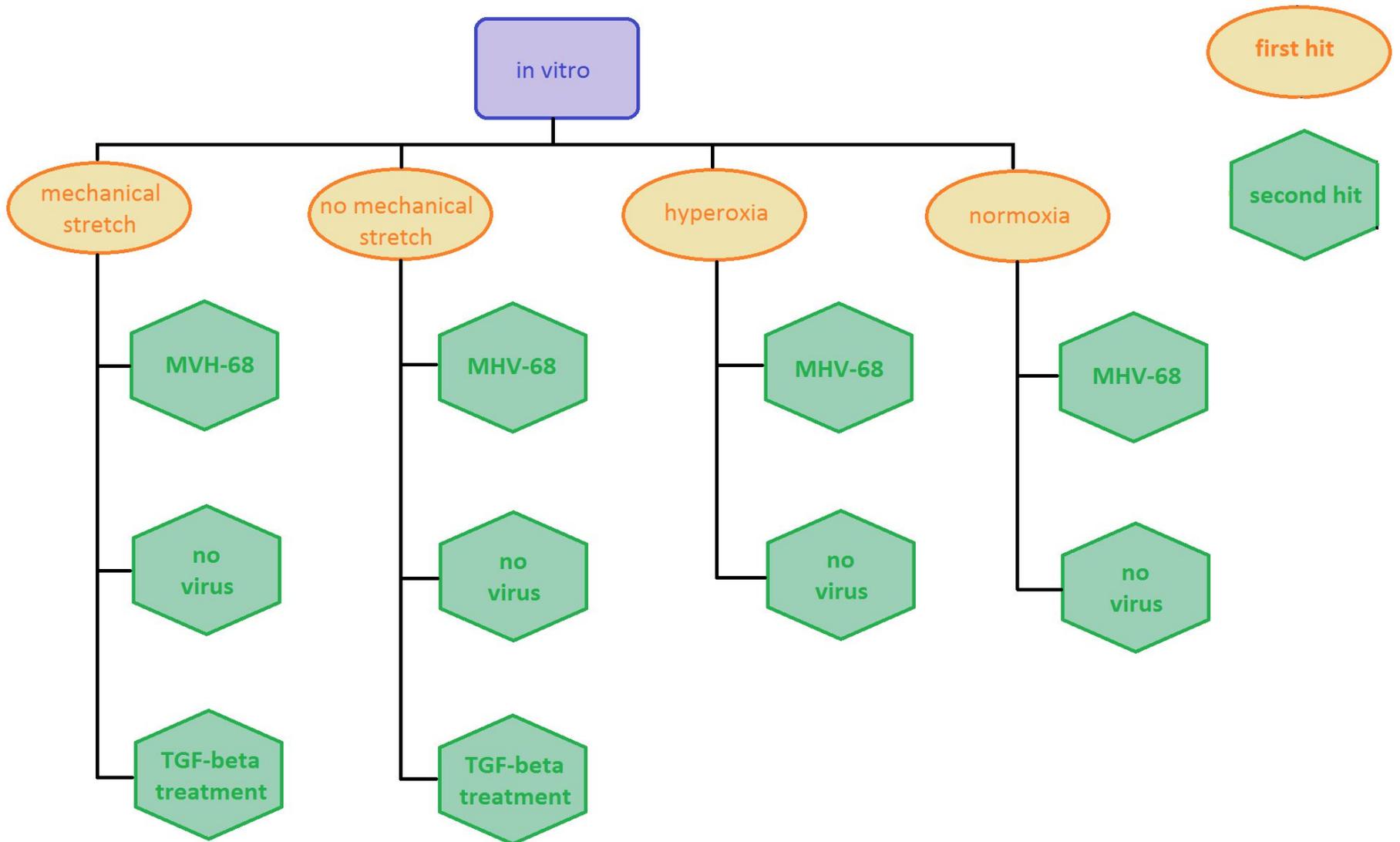
Murine gamma-herpesvirus 68

MHV-68 induces progressive pulmonary fibrosis

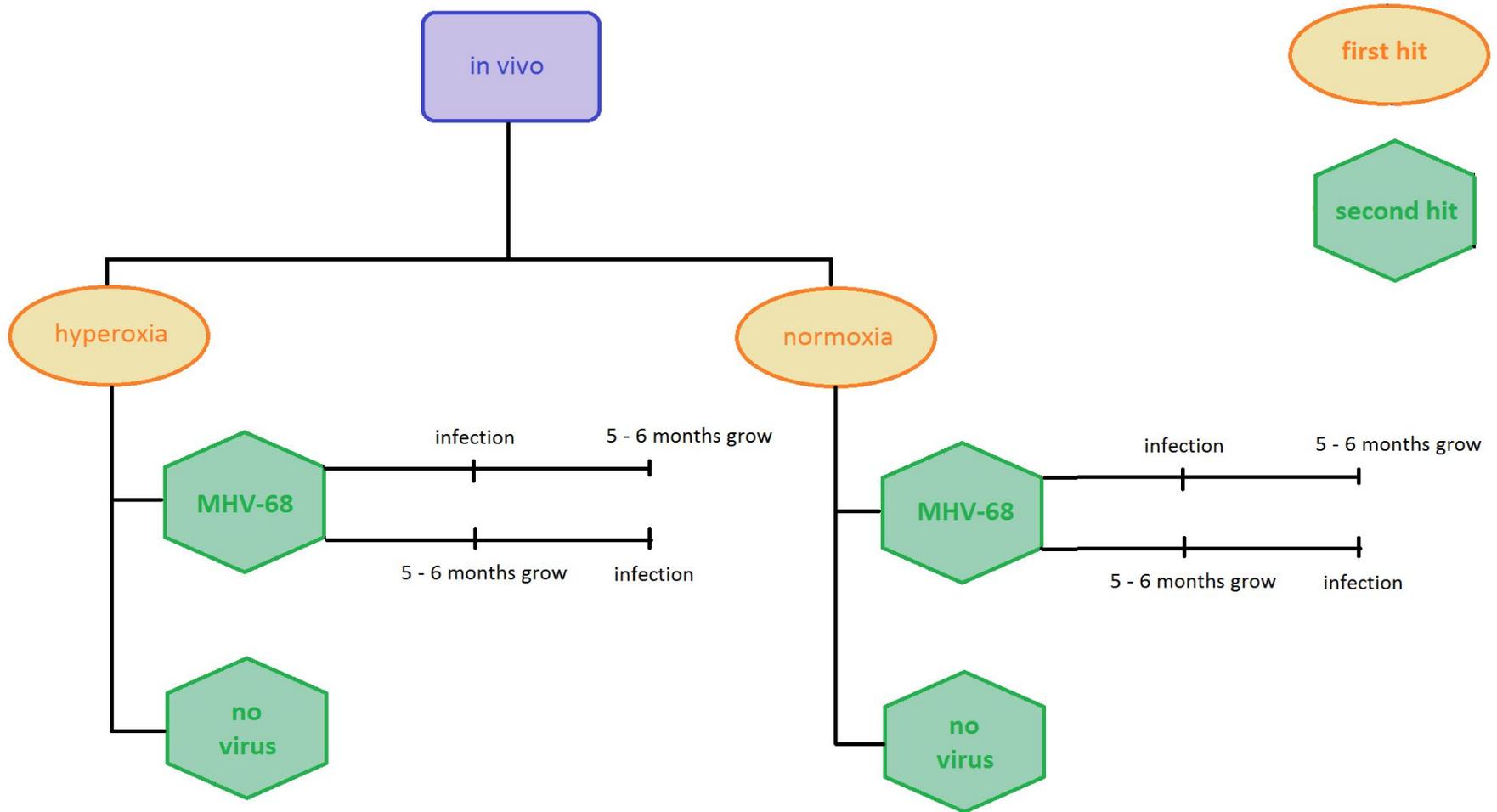
Readily infects laboratory mice

Perfect to study chronic lung disease in the mice model

Experimental design



Experimental design



Discussion

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[Bronchopulmonary Dysplasia: Chronic Lung Dis](#)

1. [Outcomes](#)

Lauren M. Davidson, Sara K. Berkelhamer
J Clin Med. 2017 Jan; 6(1): 4. Published online 2017 Jan 6.
PMCID: PMC5294957
[Article](#) [PubReader](#) [PDF-559K](#) [Citation](#)

[Bronchopulmonary dysplasia: A Review of Path](#)

2. Renjithkumar Kalikkot Thekkeveedu, Milenka Cuvic
Respir Med. Author manuscript; available in PMC 2018 Nov
Published in final edited form as: Respir Med. 2017 Nov; 13:
doi: 10.1016/j.rmed.2017.10.014
PMCID: PMC5729938
[Article](#) [PubReader](#) [PDF-424K](#) [Citation](#)

[Biomarkers for Bronchopulmonary Dysplasia in](#)

3. Lidys Rivera, Roopa Siddaiah, Christiana Oji-Mmuc
Front Pediatr. 2016; 4: 33. Published online 2016 Mar 31. doi:
PMCID: PMC4814627
[Article](#) [PubReader](#) [PDF-1.6M](#) [Citation](#)

[POSTNATAL INFLAMMATION IN THE PATHOGE](#) [DYSPLASIA](#)

Vineet Bhandari
Birth Defects Res A Clin Mol Teratol. Author manuscript; av:
Published in final edited form as: Birth Defects Res A Clin M
2014 Feb 27. doi: 10.1002/bdra.23220
PMCID: PMC4023567
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[Chronic Lung Disease in the Preterm Infant. Lessons Learned from Animal Models](#)

1. Anne Hilgendorff, Irwin Reiss, Harald Ehrhardt, Oliver Eickelberg, Cristina M. Alvira
Am J Respir Cell Mol Biol. 2014 Feb; 50(2): 233-245. doi: 10.1165/rcmb.2013-0014TR
PMCID: PMC5455410
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2. Hui-Ying Liang, Xiao-Wen Liang, Zhi-Yi Chen, Xiao-Hua Tan, Hui-Hui Yang, Jian-Yi Liao, Kuan Cai, Jin-Sui Yu
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[4th Pediatric Allergy and Asthma Meeting \(PAAM\)](#)

4. S. Tolga Yavuz, Ozan Koc, Ali Gungor, Faysal Gok, Jessica Hawley, Christopher O'Brien, Matthew Thomas, Malcolm Brodrie, Louise Michaelis, Inês Mota, Ângela Gaspar, Susana Piedade, Graça Sampaio, José Geraldo Dias, Miguel Paiva, Mário Morais-Almeida, Cristina Madureira, Tânia Lopes, Susana Lopes, Filipa Almeida, Alexandra Sequeira, Fernanda Carvalho, José Oliveira, Fabienne Gay-Crosier, Ioana-Valentina Nenciu, Andreia Florina Nita, Alexandru Ulmeanu, Dumitru Oraseanu, Carmen

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- [Bronchopulmonary Dysplasia: Outcomes](#)
Lauren M. Davidson, Sara K. Berke
J Clin Med. 2017 Jan; 6(1): 4. Published
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Lidys Rivera, Roopa Siddaiah, Chiranjeevi K. Reddy
Front Pediatr. 2016; 4: 33. Published online 2016 Dec 15. doi: 10.3389/fped.2016.00033
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- VA
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Clin Microbiol Rev. 2016 Jul; 29(3): 695-747. Published online 2016 Jun 8. doi: 10.1128/CMR.00102-15
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Published in final edited form as: JAMA Pediatr. 2015 Dec 7; 169(12): e153785. Published online 2015 Dec 7.
doi: 10.1001/jamapediatrics.2015.3785
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Cooperation project

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Comprehensive Pneumology
Center (CPC)
AG Adler

Institute of Lung Biology and
Disease (ILBD)
Research group “Mechanism
of Neonatal Chronic Lung
Disease ”
Comprehensive Pneumology
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Thesis committee:

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ANY QUESTIONS?**

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