

Publications

- DeSimone, S., Coelho, C., Roy, S., VijayRaghavan, K., and White, K. (1996).
Erect wing, the *Drosophila* member of a family of DNA binding proteins is required in
imaginal myoblasts for flight muscle development.
Development 120, 31-39.
- Roy, S., Shashidhara, L. S., and VijayRaghavan, K. (1997).
Muscles in the *Drosophila* second thoracic segment are patterned independently of
autonomous homeotic gene function.
Current Biology 7, 222-227.
- Roy, S. and VijayRaghavan, K. (1997).
Homeotic genes and the regulation of myoblast migration, fusion, and fibre-specific gene
expression during adult myogenesis in *Drosophila*.
Development 124, 3333-3341.
- Roy, S. and VijayRaghavan, K. (1998).
Patterning muscles using organisers: Larval muscles and imaginal myoblasts actively
interact to pattern the dorsal longitudinal flight muscles of *Drosophila*.
Journal of Cell Biology 141, 1135-1145.
- Anant, S., Roy, S., and VijayRaghavan, K. (1998).
Twist and Notch negatively regulate adult muscle differentiation in *Drosophila*.
Development 125, 1361-1369.
- Landgraf, M., Roy, S., Prokop, A., VijayRaghavan, K., and Bate, M. (1999).
even skipped determines the dorsal outgrowth of motor axons in *Drosophila*.
Neuron 22, 43-52.
- Roy, S. and VijayRaghavan, K. (1999).
Muscle pattern diversification in *Drosophila*: The story of imaginal myogenesis.
BioEssays 21, 486-498.
- Lewis, K. E., Currie, P. D., Roy, S., Schauerte, H., Haffter, P., and Ingham, P. W. (1999).
Control of muscle cell type specification in the zebrafish embryo by Hedgehog signalling.
Developmental Biology 216, 469-480.

Roy, S.* , Wolff, C.* , and Ingham, P. W. (2001).

The *u-boot* mutation identifies a Hedgehog-regulated myogenic switch for fibre-type diversification in the zebrafish embryo.

Genes and Development 15, 1563-1576.

Roy, S., Qiao, T., Wolff, C., and Ingham, P. W. (2001).

Hedgehog signalling pathway is essential for pancreas specification in the zebrafish embryo.

Current Biology 11, 1358-1363.

Wolff, C., Roy, S., and Ingham, P. W. (2003).

Multiple muscle cell identities induced by distinct levels and timing of Hedgehog activity in the zebrafish embryo.

Current Biology 13, 1169-1181.

Nakano, Y., Kim, R., Kawakami, A., Roy, S., Schier, A., and Ingham, P. W. (2004).

Inactivation of *dispatched1* by the *chameleon* mutation disrupts Hedgehog signalling in the zebrafish embryo.

Developmental Biology 269, 381-392.

Baxendale, S., Davison, C., Muxworthy, C., Wolff, C., Ingham, P. W. and Roy, S. (2004).

The B-cell maturation factor Blimp-1 specifies vertebrate slow-twitch muscle fibre identity in response to Hedgehog signalling.

Nature Genetics 36, 88-93.

Wolff, C.* , Roy, S.* , Lewis, K.E., Schauerte, H., Joerg-Rauch, G., Kirn, A., Geisler, R., Haffter, P., and Ingham, P. W. (2004).

iguana encodes a novel zinc finger protein with coiled coil domains essential for Hedgehog signal transduction in the zebrafish embryo.

Genes and Development 18, 1565-1576.

Roy, S. and Ingham, P. W. (2002).

Hedgehog's tryst with the cell cycle.

Journal of Cell Science 115, 4393-4397.

Roy, S. and Ng, T. (2004).

Blimp-1 specifies neural crest and sensory neuron progenitors in the zebrafish embryo.

Current Biology 14, 1772-1777.

Tay, S. Y.* Ingham, P. W., and Roy, S.* (2005).
A homologue of the *Drosophila* kinesin-like protein Costal2 regulates Hedgehog signal transduction in the zebrafish embryo.
Development 132, 625-634.

Ng, T., Yu, F., and Roy, S. (2006).
A homologue of the vertebrate SET domain and zinc finger protein Blimp-1 regulates terminal differentiation of the tracheal system in the *Drosophila* embryo.
Development, Genes and Evolution 216, 243-252.

Lee, B.C. and Roy, S. (2006).
Blimp-1 is an essential component of the genetic program controlling development of the pectoral limb bud.
Developmental Biology 300, 623-634.

Xu, J., Srinivas, B. P., Tay, S. Y., Mak, A., Yu, X., Lee, S. G. P., Yang, H., Govindarajan, K. R., Leong, B., Bourque, G., Mathavan, S., and Roy, S. (2006).
Genome-wide expression profiling in the zebrafish embryo identifies target genes regulated by Hedgehog signalling during vertebrate development.
Genetics 174, 735-752.

Roy, S. (2007).
Genetic analysis of the vertebrate Hedgehog signalling pathway using muscle cell fate specification in the zebrafish embryo.
Methods in Molecular Biology 394, 55-66.

Srinivas, B. P., Woo, J., Leong, W. Y., and Roy, S. (2007).
A conserved molecular pathway mediates myoblast fusion in insects and vertebrates.
Nature Genetics 39, 781-786.

Yu, X., Ng, C. P., Habacher, H., and Roy, S. (2008).
Foxj1 transcription factors are master regulators of the motile ciliogenic program.
Nature Genetics 40, 1445-1453.

Liew, H. P., Choksi, S., Wong, K. N., and Roy, S. (2008).
Specification of vertebrate slow-twitch muscle fiber fate by the transcriptional regulator Blimp1.
Developmental Biology 324, 226-235.

S. Roy. (2009).

The motile cilium in development and disease: emerging new insights.

BioEssays 31:694-699.

K. Rochlin, S. Yu, S. Roy, M. K. Baylies. (2010).

Myoblast fusion: when it takes more to make one.

Developmental Biology 341:66-83.

S. Y. Tay, X. Yu, K. N. Wong, P. Panse, C. P. Ng, S. Roy. (2010)

The Iguana/DZIP1 protein is a novel component of the ciliogenic pathway essential for axonemal biogenesis.

Developmental Dynamics 239:527-34.

S. Roy. (2010)

The development and function of vertebrate cilia, in (ed.).

Topical Talks: The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, (London) 2010

(online at <http://hstalks.com/bio>)

X. Yu, D. Lau, C. P. Ng, S. Roy. (2011)

Cilia driven fluid flow as an epigenetic cue for otolith biominerilization on sensory hair cells of the inner ear.

Development 138: 487-494.

S. Roy. (2012)

Hedgehog and cilia: when and how was their marriage solemnized?

Differentiation (40th anniversary special issue “Cilia in Development and Disease”) 83:S43-8.

S. Roy, K. VijayRaghavan. (2012)

Developmental biology: taking flight.

Current Biology 22:R63-5.

S. Vij, J. C. Rink, H. K. Ho, D. Babu, M. Eitel, V. Narasimhan, V. Tiku, J. Westbrook, B.

Schierwater, S. Roy. (2012)

Evolutionarily ancient association of the FoxJ1 transcription factor with the motile ciliogenic program.

PLoS Genetics 8(11): e1003019.

D. Babu and S. Roy. (2013)
Left-right asymmetry: Cilia stir up new surprises in the node.
Open Biology 3, 130052.

S. P. Choksi, G. Lauter, P. Swoboda, and S. Roy. (2014)
Switching on cilia: transcriptional networks regulating ciliogenesis.
Development 141, 1427-1441.

S. P. Choksi, D. Babu, D. Lau, X. Yu and S. Roy. (2014)
Systematic discovery of novel ciliary genes through functional genomics in the zebrafish.
Development 141, 3410-3419.

H. Lu, M. T. Toh, V. Narasimhan, S. K. Thamilselvam, S. P. Choksi, S. Roy. (2015)
A function for the Joubert syndrome protein Arl13b in ciliary membrane extension and ciliary length regulation.
Developmental Biology 397, 225-236.

V. Narasimhan, R. Hjeij, S. Vij, N. T. Loges, J. Wallmeier, C. Koerner-Rettberg, C. Werner, S. K. Thamilselvam, A. Boey, S. P. Choksi, P. Pennekamp, S. Roy, H. Omran. (2015)
Mutations in CCDC11, which encodes a coiled-coil containing ciliary protein, causes *situs inversus* due to dysmotility of monocilia in the left-right organizer.
Human Mutation 36, 307-318.

V. Narasimhan and S. Roy. (2015).
Cilia: organelles at heart of heart disease.
Current Biology 25, R559-562.

F. Zhou and S. Roy. (2015).
SnapShot: Motile cilia.
Cell 162, 224.

P. Boyd, V. T. Cunliffe, S. Roy* and J. Wood.* (2015).
Sonic hedgehog functions upstream of disrupted-in-schizophrenia 1 (disc1): Implications for mental illness.
Biology Open 4, 1336-1343.

F. Zhou, V. Narasimhan, M. Shboul, Y. L. Chong, B. Reversade, and S. Roy. (2015).
Gmnc is a master regulator of the multiciliated cell differentiation program.
Current Biology 25, 3267-3273.

Y. Chen, K. T. Chang, D. W. Lian, H. Lu, S. Roy, N. K. Laksmi, Y. Low, G. Krishnaswamy, A. Pierro, C. C. Ong (2016).

The role of ischemia in necrotizing enterocolitis.

Journal of Pediatric Surgery 8, 1255-1261.

W. Zhang and S. Roy (2016).

The zebrafish fast myosin light chain mylpfa:H2B-GFP transgene is a useful tool for in vivo imaging of myocyte fusion in the vertebrate embryo.

Gene Expression Patterns 20, 106-110.

W. Zhang and S. Roy. (2017).

Myomaker is required for the fusion of fast-twitch myocytes in the zebrafish embryo.

Developmental Biology 423, 24-33

H. Lu, M. C. Rondón Galeano, E. Ott, G. Kaeslin, P. J. Kausalya, C. Kramer, N. Ortiz-Brüchle, N. Hilger, V. Metzis, M. Hiersche, S. Y. Tay, R. Tunningley, S. Vij, A. D. Courtney, B. Whittle, E. Wühl, U. Vester, B. Hartleben, S. Neuber, V. Frank, M. H. Little, D. Epting, P. Papathanasiou, A. C. Perkins, W. Hunziker, Y. H. Gee, E. A. Otto, K. Zerres, F. Hildebrandt, S. Roy*, C. Wicking* and C. Bergmann*. (2017).

Mutations in *DZIP1L*, which encodes a ciliary transition zone protein, cause autosomal recessive polycystic kidney disease.

Nature Genetics 49, 1025-1034.

C. Windpassinger, J. Piard, C. Bonnard, M. Alfadhel, S. Lim, X. Bisteau, S. Blouin, A. B. Ali, A. Y. J. Ng, H. Lu, S. Tohari, S. Z. A. Talib, N. van Hul, M. J. Caldez, L. van Maldergem, S. Youssef, V. Coppola, A. de Bruin, L. Tessarollo, H. Choi, V. Rupp, K. Rötzer, P. Roschger, K. Klaushofer, S. Roy, B. Venkatesh, R. Ganger, F. Grill, F. B. Chehida, U. Altunoglu, A. Al Kaissi, B. Reversade and P. Kaldis, P. (2017).

Mutations in *CDK10* in humans and mice cause severe growth retardation, spine malformation, and intellectual disabilities.

American Journal of Human Genetics 101, 391-403.

Y. L. Chong, Y. Zhang, F. Zhou and S. Roy. (2018).

Distinct requirements of E2f4 versus E2f5 activity for multiciliated cell development in the zebrafish embryo.

Developmental Biology 443, 165-172.

X. Zhang, S. Jia, Z. Chen, Y. L. Chong, H. Xie, D. Feng, X. Wu, D. Z. Song, S. Roy, and C. Zhao. (2018).

Cilia-driven cerebrospinal fluid flow directs expression of Urotensin neuropeptides to straighten the vertebrate body axis.

Nature Genetics 50, 1666-1673.

Ishita Mukherjee, S. Roy*, and S. Chakrabarti*. (2019).

Identification of important effector proteins in the FOXJ1 transcriptional network associated with ciliogenesis and ciliary function.

Frontiers in Genetics 10, 23.

H. Lu, P. Anujan, F. Zhou, Y. Zhang, Y. L. Chong, C. D. Bingle, and S. Roy. (2019).

Mcidas mutant mice reveal a two-step process for the specification and differentiation of multiciliated cells in mammals.

Development 146, pii: dev172643.

B. Terré, M. Lewis, G. Gil-Gómez, Z. Han, H. Lu, M. Aguilera, N. Prats, S. Roy, H. Zhao, T. H. Stracker. (2019)

Defects in efferent duct multiciliogenesis underlie male infertility in GEMC1, MCIDAS or CCNO deficient mice.

Development pii: dev162628.

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