

# Publications



## Publications (since 2002)

S Giorgetti, O.B., Shingate, P., O'Meara, C.P., Ravi, V., Pillai, N.E., Tay, B-H., Prasad, A., Iwanami, N., Tan, H.H., Schorpp, M., Venkatesh, B\* and Boehm, T\*.

Antigen receptor repertoires of one of the smallest known vertebrates.

**Sci. Adv.** (2020) In Press.

de Mendoza, A., Poppe, D., Buckberry, S., Pflueger, J., Albertin, C.B., Daish, T., Bertrand, S., de la Calle-Mustienes, E., Gomez-Skarmeta, J.L., Nery, J.R., Ecker, J.R., Baer, B., Ragsdale, C.W., Grützner, F., Escriva, H., Venkatesh, B., Bogdanovic, O. and Lister, R.

The emergence of the brain non-CpG methylation system in vertebrates.

**Nat. Ecol. Evol.** (2020) In Press.

Tan, E.E.K., Hopkins, R., Lim, C.K., Jamuar, S., Ong, C., Venkatesh, B., Tergaonkar, V., Reversade, B., Chin, K., Tan, A.M., Liew, W.K. and Connolly, J.

A dominant-negative gain-of-function mutation in NFKBIA promotes hyper IL-1 $\beta$  production causing hepatic disease with severe immunodeficiency.

**J. Clin. Invest.** (2020) 130:5817-5832.

Shingate, P., Ravi, V., Prasad, A., Tay, B-H., and Venkatesh, B.

Chromosome-level genome assembly of the coastal horseshoe crab (*Tachypleus gigas*).

**Mol. Ecol. Res.** (2020) 20: 1748-1760.

Zhou, F., Narasimhan, V., Ravi, V., Venkatesh, B., Rayamajhi, D., Lu, H., Chong, Y.L. and Roy, S.

Conservation as well as divergence in Mcidas function underlies the differentiation of multiciliated cells in vertebrates.

**Dev Biol.** (2020) 465: 168-177.

Bonnard, C., Navaratnam, N., Ghosh, K., Chan, P.W., Tan, T.T., Pomp, ), Ng, A.Y.J., Tohari, S., Changede, R., Carling, D., Venkatesh, B., Altunoglu, U., Kayserili, H. and Reversade, B.

A Loss-of-function NUA2 mutation in humans causes anencephaly due to impaired Hippo-YAP signaling.

**J. Exp. Med.** (2020) 217: e20191561.

Shingate, P., Ravi, V., Prasad, A., Tay, B.-H., Garg, K. M., Chattopadhyay, B., Yap, L., Rheindt, F.E. and Venkatesh, B.

Chromosome-level assembly of the horseshoe crab genome provides insights into its genome evolution.

**Nature Communications** (2020) 11(1): 2322.

Zhang, Y., Ravi, V., Qin, G., Dai, H., Zhang, H., Han, F., Wang, X., Liu, Y., Yin, J., Huang, L., Venkatesh, B.\* and Lin, Q.\*

Comparative genomics reveal shared genomic changes in syngnathid fishes and signatures of genetic convergence with placental mammals.

**Natl. Sci. Rev.** (2020) 7: 964-977.

Koh, A.L., Bonnard, C., Lim, J.Y., Liew, W.K., Thoon, K.C., Thomas, T., Ali, N.A., Ng, A.Y.J., Tohari, S., Boo, P.K., Venkatesh, B., Reversade, B. and Jamuar, S.S.

Heterozygous Missense Variant in EIF6 gene causes a novel form of Shwachman-Diamond Syndrome.

**Amer. J. Med. Genet. Part A.** (2020) 182A:2010-2020.

Fonseca, E., Machado<sup>1</sup>, A.M., Vilas-Arrondo, N., Gomes-dos-Santos, A., Veríssimo, A., Esteves, P., Almeida, T., Themudo, G., Ruivo, R., Pérez, M., da Fonseca, R., Santos, M.M., Froufe, E., Román, E., Venkatesh, B.\* and Castro, F.C.\*

Cartilaginous fishes offer unique insights into the evolution of the nuclear receptor gene repertoire in gnathostomes.

**Gen. Comp. Endocrinol.** (2020) 295: 113527.

Bevan, L., Lim, Z.W., Venkatesh, B., Scott, A., Riley, P.R., Martin, P. and Richardson, R.J. Specific macrophage populations promote both cardiac scar deposition and subsequent resolution in adult zebrafish.

**Cardiovasc Res.** (2020) 116, 1357-1371.

Clark-Shen, N., Venkatesh, B., Choy Pei Pei, C., Xu, K. and Naylor, G.J.P.

Not yet extinct: *Rhynchobatus cooki* is found after being unseen for over 20 years.

***Pacific Conservation Biology*** (2020) Epub ahead of print.

Hengel, H., Bosso-Lefèvre, C. ... Venkatesh, B.... and Reversade, B.

Loss-of-function mutations in UDP-Glucose -Dehydrogenase are a cause of recessive developmental epileptic encephalopathy.

***Nat. Commun.*** (2020) 11(1):595.

Storz, J., Natarajan, C., Grouleff, M.K., Vandewege, M., Hoffmann, F., You, X., Venkatesh, B.\* and Fago, A.\*

Oxygenation properties of hemoglobin and the evolutionary origins of isoform multiplicity in an amphibious air-breathing fish, the blue-spotted mudskipper (*Boleophthalmus pectinirostris*).

***J. Exp. Biol.*** (2020) 223 (Pt 2).

Ravi, V., Bhatia, S., Shingate, P., Tay, B-H., Venkatesh, B.\* and Kleinjan, D.A.\*

Lampreys, the jawless vertebrates, contain three Pax6 genes with distinct expression in eye, brain and pancreas.

***Sci. Rep.*** (2019) 9:19559.

Venkatesh, B.

Sydney Brenner—a personal perspective.

***Genome Res.*** (2019) 29: vii-ix.

Albaramki J, Dmour H, Shboul M, Bonnard C, Venkatesh B and Odeh R.

Recessive mutation in GALNT3 causes hyperphosphatemic familial tumoral calcinosis associated with chronic recurrent multifocal osteomyelitis.

***Turk J Pediatr.*** (2019) 61:130-133.

Ziaei, A., Xu, X., Dehghani, L., Bonnard, C., Zellner, A., Ng, A.Y.J., Tohari, S., Venkatesh, B., Haffner, C., Reversade, B., Shaygannejad, V. and Pouladi, M.A.

Novel mutation in HTRA1 in a family with diffuse white matter lesions and inflammatory features.

***Neurology: Genetics*** (2019) 8; 5(4): e345.

Katsu, Y., Kohno, S., Oka, K., Lin, X., Otake, S., Pillai, N.E., Takagi, W., Hyodo, S., Venkatesh, B. and Baker, M.E.

Transcriptional activation of elephant shark mineralocorticoid receptor by corticosteroids, progesterone and spironolactone.

**Sci. Signal.** (2019) 12:eaar2668.

Fonseca, E., Ruivo, R., Machado, A., Conrado, F., Tay, B-H., Venkatesh, B., Santos, M. and Castro, F.

Evolutionary plasticity in detoxification gene modules: the preservation and loss of the Pregnane X Receptor in Chondrichthyes lineages.

**Int. J. Mol. Sci.** (2019) 20:2331.

Venkatesh, B.

Conquest of the Land and Sea.

In: *Sydney Brenner's 10-on-10: The Chronicles of Evolution*. Shuzhen Sim and Benjamin Seet (Eds).

Wildtype Books, 272p, 2019.

Shboul, M., Roschger, P., Ganger, R., Paschalis, L., Rokidi, S., Zandieh, S., Behunova, J., Muschitz, C., Fahrleitner-Pammer, A., Yu Jin Ng, A., Tohari, S., Venkatesh, B., Bonnard, C., Reversade, B., Klaushofer, K. and Al Kaissi, A.

Bone matrix hypermineralization associated with low bone turnover in a case of Nasu-Hakola disease.

**Bone** (2019) 123: 48-55.

Chan, J., Ng, A., Cheng, C.L., Nairismägi, M., Venkatesh, B., Cheah, D., Li, S., Chan, S., Ngeow, J., Laurensia, Y., Lim, J., Pang, J. Nagarajan, S., Song, T., Chia, B. Tan, J. Huang, D. Goh, Y.T., Poon, E., Somasundaram, N. Tao, M., Quek, R., Farid, M., Khor, C.C., Bei, J., Tan, S.Y., Lim, S.T., Ong, C.K. and Tang, T.

Whole exome sequencing identifies recessive germline mutations in FAM160A1 in familial NK/T cell lymphoma.

**Blood Cancer J.** (2018) 8:111.

Gaillard, A., Tay, B., Sirkin, D., Lafont, A., de Flori, C., Vissio, P.G., Mazan, S., Dufour, S., Venkatesh, B. and Tostivint, H.

Characterization of gonadotropin-releasing hormone (GnRH) genes from cartilaginous fish: evolutionary perspectives.

**Front. Neurosci.** (2018) 12:607, 1-14.

Lopes-Marques, M., Kabeya, N., Qian, Y., Ruivo, R., Santos, M., Venkatesh, B., Tocher, D., Castro, F. and Monroig, O.

Retention of fatty acyl desaturase 1 (*fads1*) in Elopomorpha and Cyclostomata provides

novel insights into the evolution of long-chain polyunsaturated fatty acid biosynthesis in vertebrates.

***BMC Evol. Biol.*** (2018) 18:157.

Hettiaracchchi, D., Bonnard, C., Jayawardana, S. M. A., Ng, A.Y.J, Tohari, S., Venkatesh, B., Reversade, B., Singaraja, R. and Dissanayake, V. H. W.

Cenani-Lenz syndactyly syndrome - a case report of a family with isolated syndactyly.

***BMC Medical Genetics*** (2018) 19:125.

Hughes, L.C.\* , Ortí, G.\* , Huang, Y., Sun, Y., Baldwin, C.C., Thompson, A.W., Arcila, D., Betancur-R, R., Li, C., Becker, L., Bellora, N., Zhao, X., Li, X., Wang, M., Fang, C., Xie, B, Zhou, Z., Huang, H., Chen, S., Venkatesh, B\* . and Shi, Q\* .

Comprehensive phylogeny of ray-finned fishes (Actinopterygii) based on transcriptomic and genomic data.

***Proc. Natl. Acad. Sci. USA.*** (2018) 115:6249-6254.

Bonnard, C., Shboul, M., Tonekaboni, S.H., Ng, A.Y.J., Tohari, S., Ghosh, K., Lai, A., Lim, J.Y., Tan, E.C., Devisme, L., Stichelbout, M., Alkindi, A., Banu, N., Yüksel, Z., Ghoumid, J., Elkhartoufi, N., Boutaud, L., Micalizzi, A., Brett, M.S., Venkatesh, B., Valente, E.M., Attié-Bitach, T., Reversade, B. and Kariminejad, A.

Novel mutations in the ciliopathy-associated gene *CPLANE1* (*C5orf42*) cause OFD syndrome type VI rather than Joubert syndrome.

***Eur J Med Genet.*** (2018) 61: 585-595.

Holland, S.J., Berghuis, L., King, J., Iyer, L.M., Sikora, K., Fifield, H., Peter, S., Quinlan, E., Sugahara, F., Shingate, P., Trancoso, I., Iwanami, N., Temereva, E., Strohmeier, C., Kuratani, S., Venkatesh, B., Evanno, G., Aravind, L., Schorpp, M., Larijani, M. and Boehm, T.

Expansions, diversification and inter-individual copy number variations of AID/APOBEC family cytidine deaminase genes in lampreys.

***Proc. Natl. Acad. Sci. USA.*** (2018) 115: E3211-E3220.

Ravi, V. and Venkatesh, B.

The divergent genomes of teleosts.

***Annu. Rev. Anim. Biosci.*** (2018) 6:47-68.

Jung, H., Baek, M., D'Elia, K.P., Boisvert, C., Tay, B., Currie, P., Venkatesh, B., Stuart M. Brown, S.M., Heguy, A., Schoppik, D. and Dasen, J.S.

The ancient origins of neural substrates for land walking.

**Cell** (2018) 172: 667-682.

Kojo, S., Tanaka, H., Endo, T., Muroi, S., Liu, Y., Seo, W., Tenno, M., Kakugawa, K., Naoe, Y., Nair, K., Moro, K., Katsuragi, Y., Kanai, A., Inaba, T., Egawa, T., Venkatesh, B., Minoda, A., Kominami, R. and Taniuchi, I.

Priming of lineage-specifying genes by Bcl11b is required for lineage choice in post-selection thymocytes.

**Nat. Commun.** (2017) 8:702.

Zakon, H., Li, W., Pillai, N.E., Shingate, P., Tohari, S., Ren, J. and Venkatesh, B.

Voltage-gated sodium channel gene repertoire of lampreys: gene duplications, tissue-specific expression, and discovery of a long-lost gene.

**Proc. R. Soc. B** (2017) 284: 20170824.

Windpassinger, C., et al.

CDK10 mutations in humans and mice cause severe growth retardation, spine malformations and developmental delays.

**Am. J. Hum. Genet.** (2017) 101: 391-403.

Zhang, H., Ravi, V., Tay, B., Tohari, S., Pillai, N.E., Prasad, A., Lin, Q., Brenner, S. and Venkatesh, B.

Lampreys, the jawless vertebrates, contain only two ParaHox gene clusters.

**Proc. Natl. Acad. Sci. USA.** (2017) 114: 9146-9151.

Lin, Q., Qiu, Y., Gu, R., Xu, M., Li, J., Bian, C., Zhang, H., Qin, G., Zhang, Y., Luo, W., Chen, J., You, X., Fan, M., Sun, M., Xu, P., Venkatesh, B., Xu, J., Fu, H. and Shi, Q.

Draft genome of the lined seahorse, *Hippocampus erectus*.

**Gigascience** (2017) 6: 1-6.

Xue, S., Maluenda, J., Marguet, F., Shboul, M., Quevarec, L., Bonnard, C., Ng, A.Y.J., Tohari, S., Tan, T., Kong, M.K., Monaghan, K.G., Cho, M.T., Siskind, C.E., Sampson, J.B., Rocha, C.T., Alkazaleh, F., Gonzales, M., Rigonnot, L., Whalen, S., Gut, M., Gut, I., Bucourt, M., Venkatesh, B., Laquerrière, A., Reversade, B. and Melki, J.

Loss-of-function mutations in LGI4, encoding a secreted ligand involved in Schwann cell myelination, are responsible for arthrogyposis multiplex congenital. ?

**Am. J. Hum. Genet.** (2017) 100: 659-665.

Xu, X., Tay, Y., Sim, B., Yoon, S., Huang, Y., Ooi, J., Utami, K.H., Ziaei, A., Ng, B., Radulescu, C., Low, D., Ng, A.Y.J., Loh, M., Venkatesh, B., Ginhoux, F., Augustine, G.J. and Pouladi, M.A.

Reversal of phenotypic abnormalities by CRISPR/Cas9-mediated gene correction in Huntington disease patient-derived induced pluripotent stem cells.

**Stem Cell Reports** (2017) 8: 619-633.

Fonseca, E., Ruivo, R., Lopes-Marques, M., Zhang, H., Santos, M.M., Venkatesh, B. and Castro, L.F.

LXR $\alpha$  and LXR $\beta$  nuclear receptors evolved in the common ancestor of gnathostomes.

**Genome Biol Evol.** (2017) 9: 222-230.

Li, J., Bian, C., Hu, Y., Mu, X., Shen, X., Ravi, V., Kuznetsova, I.S., Sun, Y., You, X., Qiu, Y., Zhang, X., Yu, H., Huang, Y., Xu, P., Gu, R., Xu, J., Orbán, L., Venkatesh, B. and Shi, Q. A chromosome-level genome assembly of the Asian arowana, *Scleropages formosus*.

**Sci. Data** (2016) 3:160105.

Lin, Q., Fan, S., Zhang, Y., Xu, M., Zhang, H., Yang, Y., Lee, A.P., Woltering, J.M., Ravi, V., Gunter, H.M., Luo, W., Gao, Z., Lim, Z.W., Qin, G., Schneider, R.F., Wang, X., Xiong, P., Li, G., Wang, K., Min, J., Zhang, C., Qiu, Y., Bai, J., He, W., Bian, C., Zhang, X., Shan, D., Qu, H., Sun, Y., Gao, Q., Huang, L., Shi, Q., Meyer, A. and Venkatesh, B.

The seahorse genome and the evolution of its specialized morphology.

**Nature** (2016) 540: 395-399.

Pan, H., Yu, H., Ravi, V., Li, C., Lee, A.P., Lian, M.M., Tay, B-H., Brenner, S., Wang, J., Yang, H., Zhang, G. and Venkatesh, B.

The genome of the largest bony fish, ocean sunfish (*Mola mola*), provides insights into its fast growth rate.

**GigaScience** (2016) 5:36.

Tostivint, H., Dettai, A., Quan, F.B., Ravi, V., Tay, B-H., Rodicio, M., Mazan, S., Venkatesh, B. and Kenigfest, N.B.

Identification of three somatostatin genes in lampreys.

**Gen. Comp. Endocrinol.** (2016) 237: 89-97.

Sun, Y., Huang, Y., Li, X., Baldwin, C.C. Zhou, Z., Yan, Z., Crandall, K.A., Zhang, Y., Zhao, X., Wang, M., Fang, A., Zhang, X., Huang, H., Lopez, J.V., Kilfoyle, K., Zhang, Y., Ortí, G\*, Venkatesh, B.\* and Shi, Q\*.

Fish-T1K (Transcriptomes of 1,000 Fishes) Project: large-scale transcriptome data for fish evolution studies.

**GigaScience** (2016) 5:18.

Bian, C., et al.

The Asian arowana (*Scleropages formosus*) genome provides new insights into the evolution of an early lineage of teleosts.

**Sci. Rep.** (2016) 6: 24501.

Oud MM, Bonnard C, Mans DA, Altunoglu U, Tohari S, Ng AY, Eskin A, Lee H, Rupar CA, de Wagenaar NP, Wu KM, Lahiry P, Pazour GJ, Nelson SF, Hegele RA, Roepman R, Kayserili H, Venkatesh B, Siu VM, Reversade B and Arts HH.

A novel ICK mutation causes ciliary disruption and lethal endocrine-cerebro-osteodysplasia syndrome.

**Cilia** (2016) 5:8.

Jamuar SS, Kuan JL, Brett M, Tiang Z, Tan WL, Lim JY, Liew WK, Javed A, Liew WK, Law HY, Tan ES, Lai A, Ng I, Teo YY, Venkatesh B, Reversade B, Tan EC and Foo R.

Incidentalome from genomic sequencing: A barrier to personalized medicine?

**EBioMedicine** (2016) 5: 211-216.

Braasch, I. et al.

The spotted gar genome illuminates vertebrate evolution and facilitates human-teleost comparisons.

**Nature Genet.** (2016) 48:427-437.

Coffill, C.R., Lee, A.P., Siau, J.W., Chee, S.M., Joseph, T.L., Tan, Y.S., Madhumalar, A., Tay, B., Brenner, S., Verma, C.S., Ghadessy, F.J., Venkatesh, B. and Lane, D.P.

The p53-Mdm2 interaction and the E3 ligase activity of Mdm2/Mdm4 are conserved from lamprey to human.

**Genes Dev.** (2016) 30: 281-292.

Monroig, O., Lopez-Marques, M., Navarro, J.C., Hontoria, F., Ruivo, R., Santos, M.M., Venkatesh, B., Tocher, D.R. and Castro, L.F.

Evolutionary functional elaboration of the Elov12/5 gene family in chordates.

**Sci. Rep.** (2016) 6: 20510.



Tafakhori, A., Ng, A., Tohari, S., Venkatesh, B., Lee, H., Eskin, A., Nelson, S.F., Bonnard, C., Reversade, B., and Kariminejad, A.

Mutation in TWINKLE in a Large Iranian family with progressive external ophthalmoplegia, myopathy, dysphagia and dysphonia, and behavior change.

**Arch. Iran. Med.** (2016) 19: 87-91.

Ravi, V., Yu, W., Pillai, N.E., Lian, M.M., Tay, B., Tohari, S., Brenner, S. and Venkatesh, B. Cyclostomes lack clustered protocadherins.

**Mol. Biol. Evol.** (2015) 33: 311-315.

Campanini, E.B., Vandewege, M.W., Pillai, N.E., Tay, B.H., Jones, J.C., Venkatesh, B. and Hoffmann, F.G.

Early evolution of vertebrate Mybs: an integrative perspective combining synteny, phylogenetic, and gene expression analyses.

**Genome Biol Evol.** (2015) 7: 3009-3012.

Opazo, J.C., Lee, A.P., Hoffmann, F.G., Toloza-Villalobos, J. Burmester, T. Venkatesh, B. and Storz, J.F.

Ancient duplications and expression divergence in the globin gene superfamily of vertebrates: Insights from the elephant shark genome and transcriptome.

**Mol. Biol. Evol.** (2015) 32: 1684-1694.

Genome 10K Community of Scientists.

The Genome 10K Project: A way forward.

**Annu. Rev. Anim. Biosci.** (2015) 3: 57-111.

Venkatesh, B. and Ohta, Y.

The shark-family (cartilaginous fish) immunogenome.

**In: Immunobiology of the shark. Smith, S.L., Sim, R.M. and Flajnik, M.F.** (eds.) CRC Press, 326p, 2014.

You, X. et al.

Mudskipper genomes provide insights into the terrestrial adaptation of amphibious fishes.

**Nat. Commun.** (2014) 5:5594.

Nah, G.S., Tay, B., Brenner, S., Osato, M. and Venkatesh, B.

Characterization of the Runx gene family in a jawless vertebrate, the Japanese lamprey (*Lethenteron japonicum*).

**PLoS ONE (2014) 9 (11):e113445.**

Brawand, D., et al.

The genomic substrate for adaptive radiation in African cichlid fish.

**Nature (2014) 513: 375-381.**

Guerette, P.A., Hoon, S., Ding, D., Amini, S., Masic, A., Ravi, V., Venkatesh, B., Weaver, J.C. and Miserez, A.

Nano-confined  $\beta$ -sheets mechanically reinforce the supra-biomolecular network of robust squid sucker ring teeth.

**ACS NANO (2014) 8: 7170-7179.**

Venkatesh, B., Lee, A.P., Ravi, V., Maurya, A.K., Korzh, V., Lim, Z.W., Ingham, P.W., Boehm, T., Brenner, S. and Warren, W.C.

On the origin of SSCP genes.

**Evol. Dev. (2014) 16: 125-126.**

Jung, H., Mazzoni, E.O., Soshnikova, N., Venkatesh, B., Duboule, D. and Dasen, J.S.

Evolving Hox activity profiles govern diversity in locomotor systems.

**Dev Cell (2014) 29: 171-187.**

Nah, G.S., Lim, Z.W., Tay, B., Osato, M. and Venkatesh, B.

Runx family genes in a cartilaginous fish, the elephant shark (*Callorhynchus milii*).

**PLoS ONE (2014) 9 (4):e93816.**

Bhatia, S., Monahan, J., Ravi, V., Gautier, P., Murdoch, E., Brenner, S., van Heyningen, V., Venkatesh, B. and Kleinjan, D.A.

A survey of ancient conserved non-coding elements in the PAX6 locus reveals a landscape of interdigitated cis-regulatory archipelagos.

**Dev. Biol. (2014) 387: 214-228.**

Venkatesh, B., Lee, A.P., Ravi, V., Maurya, A.K., Lian, M.M., Swann, J.B., Ohta, Y., Flajnik, M.F., Sutoh, Y., Kasahara, M., Hoon, S., Gangu, V., Roy, S.W., Irimia, M., Korzh, V., Kondrychyn, I., Lim, Z.W., Tay, B.-H., Tohari, S., Kong, K.W., Ho, S., Lorente-Galdos, B., Quilez, J., Marques-Bonet, T., Raney, B.J., Ingham, P.W., Tay, A., Hillier, L.W., Minx, P., Boehm, T., Wilson, R.K., Brenner, S. and Warren, W.C.

Elephant shark genome provides unique insights into gnathostome evolution.

**Nature** (2014) 505, 174-179.

Castro, L.F., Gonçalves, O., Mazan, S., Tay, B-H., Venkatesh, B. and Wilson, J.M.  
Recurrent gene loss correlates with the evolution of stomach phenotypes in gnathostome history.

**Proc. R. Soc. B** (2014) 281: 20132669.

Mehta, T.K., Ravi, V., Yamasaki, S., Lee, A.P., Lian, M.M., Tay, B., Tohari, S., Yanai, S., Tay, A., Brenner, S. and Venkatesh, B.

Evidence for at least six Hox clusters in the Japanese lamprey (*Lethenteron japonicum*).

**Proc. Natl. Acad. Sci. USA.** (2013) 110: 16044-16049.

D'Souza, D.G., Rana, K., Milley, K.M., MacLean, H.E., Zajac, J.D., Bell, J., Brenner, S., Venkatesh, B., Richardson, S.J. and Danks, J.A.

Expression of Wnt signaling skeletal development genes in the cartilaginous fish, elephant shark (*Callorhynchus milii*).

**Gen. Comp. Endocrinol.** (2013)193:1-9.

Amemiya, C.T., et.al.,

The African coelacanth genome provides insights into tetrapod evolution.

**Nature** (2013) 496:311-316.

Yang, W., Thein, S., Guo, X., Xu, F., Venkatesh, B., Sugii, S., Radda, G.K. and Han, W.

Seipin differentially regulates lipogenesis and adipogenesis through a conserved core sequence and an evolutionarily acquired C-terminus.

**Biochem. J.** (2013) 452: 37-44.

Lee, A.P. and Venkatesh, B.

Ultraconserved Elements (UCEs) in the Human Genome.

**Encyclopedia of Life Sciences (eLS).** John Wiley & Sons, Ltd: Chichester. (2013) DOI: 10.1002/9780470015902.a0020842.pub2.

Ravi, V. and Venkatesh, B.

Fugu: A Compact Model Vertebrate Genome.

**Encyclopedia of Life Sciences (eLS).** John Wiley & Sons, Ltd: Chichester. (2013). DOI: 10.1002/9780470015902.a0006147.pub3.

Ravi, V., Bhatia, S., Gautier, P., Loosli, F., Tay, B-H., Tay, A., Murdoch, E., Coutinho, P., van Heyningen, V., Brenner, S., \*Venkatesh, B. and \*Kleinjan, D.A.

Sequencing of Pax6 loci from the elephant shark reveals a family of Pax6 genes in vertebrate genomes, forged by ancient duplications and divergences.

**PLoS Genetics** (2013) 9 (1): e1003177.

Venkatesh, B., Ravi, V., Lee, A.P., Warren, W.C. and Brenner, S.

Basal vertebrates clarify the evolutionary history of ciliopathy-associated genes Tmem138 and Tmem216.

**Mol. Biol. Evol.** (2013) 30: 62-65.

Davies, W.L., Tay, B-H., Zheng, L. Danks, J.A., Brenner, S., Foster, R.G., Collin, S.P., Hankins, M.W., \*Venkatesh, B. \*Hunt, D.M.

Evolution and functional characterisation of melanopsins in a deep-sea chimaera (elephant shark, *Callorhinchus milii*).

**PLoS ONE** (2012) 7: e51276.

Tan, Y.Y., Kodzius, R., Tay, B-H., Tay, A., Brenner, S. and Venkatesh, B.

Sequencing and analysis of full-length cDNAs, 5'-ESTs and 3'-ESTs from a cartilaginous fish, the elephant shark (*Callorhinchus milii*).

**PLoS ONE** (2012) 7 (10):e47174.

Chauhan, S., Zheng, X., Tan, Y.Y., Tay, B., Lim, S., \*Venkatesh, B. and \*Kaldis, P.

Evolution of the Cdk-activator Speedy/RINGO in vertebrates.

**Cell. Mol. Life Sci.** (2012). 69: 3835-3850.

Yamaguchi, Y., Kaiya, H., Konno, N., Iwata, E., Miyazato, M., Uchiyama, M., Bell, J.D., Toop, T., Donald, J.A., Brenner, S., Venkatesh, B. and Hyodo, S.

The fifth neurohypophysial hormone receptor is structurally related to the V2-type receptor but functionally similar to V1-type receptors.

**Gen. Comp. Endocrinol.** (2012) 178:519-528.

Kamiya, T., Kai, W., Tasumi, S., Oka, A., Matsunaga, T., Mizuno, N., Fujita, M., Suetake, H., Suzuki, S., Hosoya, S., Tohari, S., Brenner, S., Miyadai, T., Venkatesh, B., Suzuki, Y., Kikuchi, K.

A Trans-species missense SNP in Amhr2 is associated with sex determination in the tiger pufferfish, *Takifugu rubripes* (fugu).

***PLoS Genetics* (2012) 8 (7): e1002798.**

Wong, P.B.Y., Wiley, E.O., Johnson, W.E., Ryder, O.A., O'Brien, S.J., Haussler, D., Koepfli, K., Houck, M.L., Perelman, P., Mastromonaco, G., Bentley, A.C., Venkatesh, B., Zhang, Y., and Murphy, R.W.

Tissue sampling and standards toward initiatives in vertebrate genomics.

***GigaScience* (2012). 1: 8.**

Bernardi G, Wiley E.O., Mansour, H., Miller, M.R., Orti, G., Haussler, D., O'Brien, S.J., Ryder, O.A. and Venkatesh, B.

The fishes of Genome 10K.

***Marine Genomics* (2012). 7: 3-6.**

Maeso, I., Irimia, M., Tena, J.T., González-Pérez, E., Tran, D., Ravi, V., Venkatesh, B., Campuzano, S., Gómez-Skarmeta, J.L. and Garcia-Fernández, J.

An ancient genomic regulatory block conserved across bilaterians and its dismantling in tetrapods by retrogene replacement.

***Genome Res.* (2012) 22: 642-655.**

Lane, D.P., Madhumala, A., Lee, A.P., Tay, B-H., Verma, C., Brenner, S. and Venkatesh, B. Conservation of all three p53 family members and Mdm2 and Mdm4 in the cartilaginous fish.

***Cell Cycle* (2011) 10: 4272-4279.**

Kai, W., Kikuchi, K., Tohari, S., Chew AH, Tay, A., Fujiwara, A., Hosoya, S., Suetake, H., Naruse, K., Brenner, S., Suzuki, Y. and Venkatesh, B.

Integration of the genetic map and genome assembly of fugu facilitates insights into distinct features of genome evolution in teleosts and mammals.

***Genome Biol. Evol.* (2011) 3: 424-442.**

Lee, A.P., Brenner, S. and Venkatesh, B.

Mouse transgenesis identifies conserved functional enhancers and cis-regulatory motif in the vertebrate LIM homeobox gene *Lhx2* locus.

***PLoS ONE* (2011) 6: e20088.**

Lee, A.P., Kerk, S.Y., Tan, Y.Y., Brenner, S. and Venkatesh, B.

Ancient vertebrate conserved noncoding elements have been evolving rapidly in teleost fishes.

**Mol. Biol. Evol.** (2011) 28: 1205-1215.

Liu, Y., Ibrahim, A.S., Tay, B.-H., Richardson, S.J., Bell, J., Walker, T.I., Brenner, S., Venkatesh, B. and Danks, J.A.

Parathyroid hormone gene family in a cartilaginous fish, the elephant shark (*Callorhinchus milii*).

**J. Bone Miner. Res.** (2010) 25: 2337-2347.

Inoue, J.G., Miya, M., Lam, K., Tay, B.-H., Danks, J.A., Bell, J., Walker, T.I. and Venkatesh, B.

Evolutionary origin and phylogeny of the modern holocephalans (Chondrichthyes: Chimaeriformes): A mitogenome perspective.

**Mol. Biol. Evol.** (2010) 27: 2576-2586.

Kulkarni, R.P., Tohari, S., Ho, A., Brenner, S. and Venkatesh, B.

Characterization of a hypoxia-response element in the Epo locus of the pufferfish, *Takifugu rubripes*.

**Marine Genomics** (2010) 3: 63-70.

Tan, Y-P., Li, S., Jiang, X-J., Loh, W., Foo, Y.K., Loh, C-B., Xu, Q., Yuen, W-H., Jones, M., Fu, J., Venkatesh, B. and Yu, W-P.

Regulation of protocadherin gene expression by multiple neuron-restrictive silencer elements scattered in the gene cluster.

**Nucleic Acids Res.** (2010) 38: 4985-4997.

Genome 10K community of Scientists.

Genome 10K: A proposal to obtain whole-genome sequence for 10,000 vertebrate species.

**J. Hered.** (2009) 100: 659-674.

Jiang, X., Li, S., Ravi, V., Venkatesh, B. and Yu, W-P.

Identification and comparative analysis of the protocadherin cluster in a reptile, the green anole lizard.

**PLoS ONE** (2009) 4: e7614.

Ravi, V., Lam, K., Tay, B.-H., Tay, A., Brenner, S. and Venkatesh, B.

Elephant shark (*Callorhinchus milii*) provides insights into the evolution of Hox gene clusters in gnathostomes.

**Proc. Natl. Acad. Sci. USA.** (2009). 106: 16327-16332.

Bajoghli, B., Aghaallaei, N., Hess, I., Rode, I., Netuschil, N., Tay, B.H., Venkatesh, B., Yu, K., Kaltenbach, S.L., Holland, N.D., Diekhoff, D., Happe, C., Schorpp, M. and Boehm, T.  
Evolution of genetic networks underlying the emergence of thymopoiesis in vertebrates.  
**Cell** (2009) 138: 186-197.

Gwee, P.C., Tay, B., Brenner, S. and Venkatesh, B.  
Characterization of the neurohypophysial hormone gene loci in elephant shark and the Japanese lamprey: origin of the vertebrate neurohypophysial hormone genes.  
**BMC Evol. Biol.** (2009) 9: 47.

Davies, W.L., Carvalho, L.S., Tay, B.H., Brenner, S., Hunt, D.M. and Venkatesh, B.  
Into the blue: gene duplication and loss underlie colour vision adaptations in a deep-sea chimaera, the elephant shark *Callorhynchus milii*.  
**Genome Res.** (2009) 19: 415-426.

Wang, J., Lee, A.P., Kodzius, R., Brenner, S. and Venkatesh, B.  
Large number of ultraconserved elements were already present in the jawed vertebrate ancestor.  
**Mol. Biol. Evol.** (2009) 26: 487-490.

Larsson, T.A., Tay, B.H., Sundstrom, G., Fredriksson, R., Brenner, S., Larhammar, D. and Venkatesh, B.  
Neuropeptide Y-family peptides and receptors in the elephant shark, *Callorhynchus milii* confirm gene duplications before the gnathostome radiation.  
**Genomics** (2009) 93: 254-260.

Ravi, V. and Venkatesh, B.  
Rapidly evolving fish genomes and teleost diversity.  
**Curr. Opin. Genet. Dev.** (2008) 18: 544-550.

Lee, A.P. and Venkatesh, B.  
Ultraconserved DNA Sequence Elements in the Human Genome.  
**In: Encyclopedia of Life Sciences (ELS). John Wiley & Sons, Ltd: Chichester.** (April 2008).

Venkatesh, B.

Fugu: The Pufferfish Model Genome.

*In: Encyclopedia of Life Sciences (ELS). John Wiley & Sons, Ltd: Chichester. (April 2008).*

Gwee, P.C., Amemiya, C.T., Brenner, S. and Venkatesh, B.

Sequence and organization of coelacanth neurohypophysial hormone genes: evolutionary history of the vertebrate neurohypophysial hormone gene locus.

*BMC Evol. Biol.* (2008) 8:93.

Yu, W.P., Rajasegaran, V., Yew, K., Loh, W., Tay, B.H., Amemiya, C.T., Brenner, S. and Venkatesh, B.

Elephant shark sequence reveals unique insights into the evolutionary history of vertebrate genes: a comparative analysis of the protocadherin cluster.

*Proc. Natl. Acad. Sci. USA.* (2008) 105: 3819-3824.

Loh, Y.H., Brenner, S. and Venkatesh, B.

Investigation of loss and gain of introns in the compact genomes of pufferfishes (fugu and Tetraodon).

*Mol. Biol. Evol.* (2008) 25: 526-535.

Ruhe, J.E., Streit, S., Hart, S., Wong, C., Specht, K., Knyazev, P., Knyazeva, T., Tay, L.S., Loo, H.L., Foo, P., Wong, W., Pok, S., Lim, S.J., Ong, H., Luo, M., Ho, H.K., Peng, K., Lee, T.C., Bezler, M., Mann, C., Gaertner, S., Hoefler, H., Iacobelli, S., Peter, S., Tay, A., Brenner, S., Venkatesh, B. and Ullrich, A.

Genetic alterations in the tyrosine kinase transcriptome of human cancer cell lines.

*Cancer Res.* (2007) 67: 11368-11376.

Lee, A.P., Yang, Y.C., Brenner, S. and Venkatesh, B.

TFCONES: A database of vertebrate transcription factor-encoding genes and their associated conserved noncoding elements.

*BMC Genomics* (2007) 8: 441.

Venkatesh, B., Kirkness, E.F., Loh, Y.H., Halpern, A.L., Lee, A.P., Johnson, J., Dandona, N., Viswanathan, L.D., Tay, A., Venter, J.C., Strausberg, R.L. and Brenner, S.

Survey sequencing and comparative analysis of the elephant shark (*Callorhynchus milii*) genome.



*PLoS Biol.* (2007) 5 (4): e101.

Yu, W.P., Yew, K., Rajasegaran, V. and Venkatesh, B.

Sequencing and comparative analysis of fugu protocadherin clusters reveal diversity of protocadherin genes among teleosts.

*BMC Evol.Biol.* (2007) 7:49.

Venkatesh, B., Kirkness, E.F., Loh, Y.H., Halpern, A.L., Lee, A.P., Johnson, J., Dandona, N., Viswanathan, L.D., Tay, A., Venter, J.C., Strausberg, R.L. and Brenner, S.

Ancient noncoding elements conserved in the human genome.

*Science* (2006) 314, 1892.

Soong, T.W. and Venkatesh, B.

Adaptive evolution of tetrodotoxin resistance in animals.

*Trends Genet.* (2006) 22, 621-626.

Lee, A. P., Koh, E.G.L., Tay, A., Brenner, S. and Venkatesh, B.

Highly conserved syntenic blocks at the vertebrate Hox loci and conserved regulatory elements within and outside Hox gene clusters.

*Proc. Natl. Acad. Sci. USA.* (2006) 103, 6994-6999.

Venkatesh, B., Dandona, N. and Brenner, S.

Fugu genome does not contain mitochondrial pseudogenes.

*Genomics* (2006) 87, 307-310.

Venkatesh, B., Lu, S.Q., Dandona, N., See, S.L., Brenner, S. and Soong, T.W.

Genetic basis of tetrodotoxin resistance in pufferfishes.

*Curr. Biol.* (2005) 15: 2069-2072.

Yap, W.H., Yeoh, E., Tay, A., Brenner, S. and Venkatesh, B.

STAT4 is a target of the hematopoietic zinc-finger transcription factor Ikaros in T cells.

*FEBS Lett* (2005) 579: 4470-4478.

Kai, W., Kikuchi, K., Fujita, M., Suetake, H., Yoshiura, Y., Ototake, M., Fujiwara, A., Venkatesh, B., Miyaki, K. and Suzuki, Y.

A genetic linkage map for the tiger pufferfish, *Takifugu rubripes*.

*Genetics* (2005) 171: 227-238.

Venkatesh, B., Tay, A., Dandona, N., Patil, J.G. and Brenner, S.

A compact cartilaginous fish model genome.

**Curr. Biol.** (2005) 15, R82-R83.

Venkatesh, B. and Yap, W.H.

Comparative genomics using fugu: a tool for the identification of conserved vertebrate cis-regulatory elements.

**BioEssays** (2005) 27, 100-107.

Yeo, G., Hoon, S., Venkatesh, B. and Burge, C.B.

Variation in sequence and organization of splicing regulatory elements in vertebrate genes.

**Proc. Natl. Acad. Sci. USA.** (2004) 101, 15700-15705.

Chou, C.F., Tohari, S., Brenner, S. and Venkatesh, B.

Erythropoietin gene from a teleost fish, *Fugu rubripes*.

**Blood** (2004) 104:1498-1503.

Loh, Y.H., Christoffels, A., Brenner, S., Hunziker, W. and Venkatesh, B.

Extensive expansion of the claudin gene family in the teleost fish, *Fugu rubripes*.

**Genome Res.** (2004). 14, 1248-1257.

Christoffels, A., Koh, E.G.L., Chia, J., Brenner, S., Aparicio, S. and Venkatesh, B.

Fugu genome analysis provides evidence for a whole-genome duplication early during the evolution of ray-finned fishes.

**Mol. Biol. Evol.** (2004) 21, 1146-1151.

Brinkmann, H., Venkatesh, B., Brenner, S. and Meyer, A.

Nuclear protein-coding genes support lungfish and not the coelacanth as the closest living relatives of land vertebrates.

**Proc. Natl. Acad. Sci. USA** (2004) 101, 4900-4905.

Stapleton, T, Luchman, A., Johnston, J., Browder, L., Brenner, S., Venkatesh, B. and Jirik, F.R.

Compact intergenic regions of the pufferfish genome facilitate isolation of gene promoters: characterization of Fugu 3'-phosphoadenosine 5'-phosphosulfate synthase 2 gene promoter function in transgenic *Xenopus*.

**FEBS Lett.** (2004) 556, 59-63.

Venkatesh, B..

Evolution and diversity of fish genomes.

***Curr. Opin. Genet. Dev.*** (2003) 13, 588-592.

Yu, W.P., Brenner, S. and Venkatesh, B.

Duplication, degeneration and subfunctionalization of the nested synapsin-Timp genes in Fugu.

***Trends Genet.*** (2003) 19, 180-183.

Koh, E.G.L., Lam, K., Christoffels, A., Erdmann, M.V., Brenner, S. and Venkatesh, B.

Hox gene clusters in the Indonesian coelacanth, *Latimeria menadoensis*.

***Proc. Natl. Acad. Sci. USA*** (2003) 100, 1084-1088.

Aparicio, S., ...(37 authors)..., Venkatesh, B., Rokhsar, D. and Brenner, S.

Whole-genome shotgun assembly and analysis of the genome of *Fugu rubripes*.

***Science*** (2002) 297, 1301-1310.