

# The Genome of Chinook Salmon

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# Outline

- General information
- Genome paper
- General Genome Info
- Sequencing strategy
- Sequencing method
- Genome assembly
- Genome outcome



# General Information

- The largest of the Pacific salmon
  - 91 cm in length
  - 14 Kg in weight



# General Information

- Live in coastal seas and feed on pelagic invertebrates and other fishes





# General Information

- In the ocean, Chinook salmon are blue-green on the back and top of the head with silvery sides and white bellies.



# General Information

- In fresh water, Chinook change to olive brown, red, or purplish.



# Genome Paper



RESEARCH ARTICLE

## Chinook salmon (*Oncorhynchus tshawytscha*) genome and transcriptome

**Kris A. Christensen<sup>1,2\*</sup>, Jong S. Leong<sup>2</sup>, Dionne Sakhrani<sup>1</sup>, Carlo A. Biagi<sup>1</sup>, David R. Minkley<sup>2</sup>, Ruth E. Withler<sup>3</sup>, Eric B. Rondeau<sup>2</sup>, Ben F. Koop<sup>2</sup>, Robert H. Devlin<sup>1</sup>**

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# General Genome Info

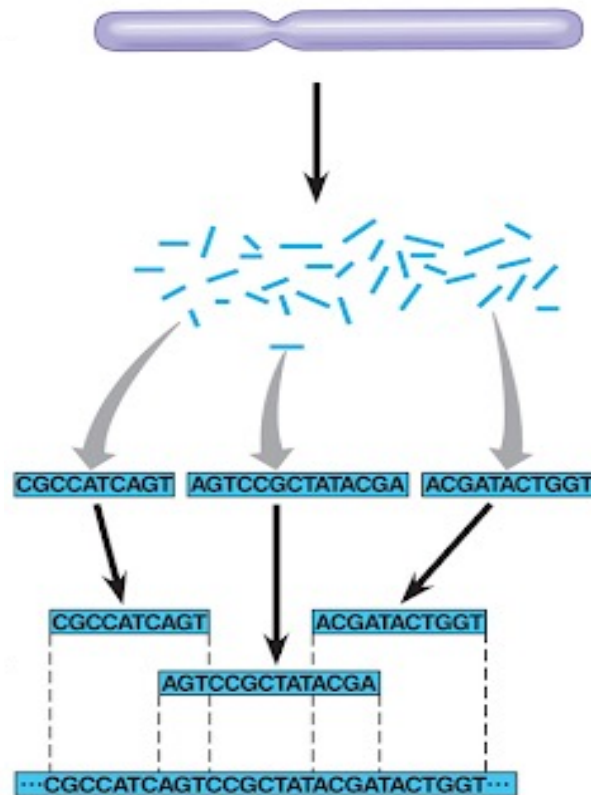
- Sample was used is Mitotic Gynogen

NCBI BioSample	Geographic Location	Date of Sampling	Phenotypic Information	Key Features (physiological/ biochemical)
SAMN07843558	Chilliwack Hatchery, BC	December 7, 2016	Weight: 58.32 g Length: 17.5 cm	Mitotic Gynogen



# Sequencing Strategy

- Whole genome shotgun sequencing



# Sequencing Method

- Illumina HiSeq4000 sequencing
- PacBio libraries

# Genome Assembly

- Total sequencing coverage was around 202x
- Initial genome assembly:
  - Contig N50 was 14.6 Kb
  - Scaffold N50 was 1.086 Mb
- Final genome assembly:
  - Contig N50 was 165.6 Kb
  - Scaffold N50 was 2.192 Mb

# Genome Outcome

- Genome size is 2.4 billion bp
- Number of genes around 36,216 genes
- Number of predicted operons was 3,55,777