
Call for Expression of Interest

Phase 2 Genome Sequencing of the Atlantic Salmon Genome Using Next Generation Technologies

A fully sequenced and well-annotated salmon genome is crucial to the development of methods and products that will positively aid the world's major fisheries and aquaculture industries. Benefits to the aquaculture industry include the development of healthy, disease resistant, and productive broodstock as well as food security and traceability. Benefits to fisheries include, better management and conservation of wild fish stocks, vital and sustainable fisheries economies as well as the protection of adaptive biodiversity. The interdependence of salmon on healthy oceans and coastal freshwater ecosystems give salmonids a central role as an indicator of overall environmental health. Thus, the genome sequence has marked potential for enabling sensitive and more accurate assessments of the sustainability of aquatic environments. At present, however, there is no genome sequence available for salmon, trout, or any of the salmonids. The Atlantic salmon genome sequence will provide a reference that will facilitate next generation sequencing of many other important salmon, trout, charr and whitefish species. It will further provide valuable insights into the impact of a whole genome duplication on the evolution of vertebrate biodiversity and functional specialization.

The International Cooperation to Sequence the Atlantic Salmon Genome (ICSASG) is currently funding a two stage program to sequence the genome of the Atlantic salmon. This program, forecasted to span over two years, involves researchers, funding agencies and industry from Canada, Chile and Norway (The Research Council of Norway, The Norwegian Fishery and Aquaculture Industry Research Fund, Genome British Columbia, The Chilean Economic Development Agency and the InnovaChile Committee).

The objectives are to produce a full genome sequence that (1) provides a detailed gene map; (2) provides a foundation for the identification of production trait loci that can be exploited in gene-assisted selection for broodstock development; and (3) acts as a reference and guide, for the genomes of other salmonids like rainbow trout and arctic charr. Once the complete genome of the Atlantic salmon is known, the resource will be available to any interested research groups around the world.

The contract for Phase 1 to produce a 4 fold coverage genome using paired-end, plasmid, fosmid and BAC Sanger sequences was awarded to Beckman Coulter Genomics. Phase 1 is expected to be complete by January 2011. Information on Phase 1 can be found on the Genome BC website at:

www.genomebc.ca/partners/international-collaborators/

The ICSASG is now calling for expressions of interest from those groups likely to be interested in submitting a proposal for Phase 2 of the project.

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Scope:

Phase 2 will be conducted using primarily next generation sequencing technologies and will result in a high definition, well-annotated genome.

Interested parties (publically or privately funded genome sequencing centres, or Public Private Partnerships) will be provided with all of the results from Phase 1 including:

- a ~4X Sanger assembled genome and
- all the associated sequence data obtained.

Those wishing to express interest in Phase 2 of the project at this time should do so by June 26, 2010 in writing to the ICSASG contact person (please see contact information below). Interested parties will be invited to attend a workshop in September in Toronto, Canada to present an approach to accomplishing the goal.

A formal Request For Proposals (RFP) will be developed and published shortly after the workshop in September. Proposals will be treated in confidence and the information contained within individual proposals will not be shared with other interested parties.

Contact Information:

Dr. Pierre Meulien
Chair, International Steering Committee, ICSASG
Genome British Columbia
500-555 West 8th Ave.
Vancouver, BC V5Z 1C6
Canada

Telephone: 604-637-3087

Fax: 604-738-8597

Email: pmeulien@genomebc.ca