Welcome - webinar instructions

• GoToTraining works best in **Chrome** or **IE**
  
  – avoid Firefox due to audio issues with Macs

• To access the full features of GoToTraining, use the desktop version by clicking **“switch to desktop version”**

• All **microphones will be muted** whilst the trainer is speaking

• If you have a question please use the **chat box** at the bottom of the GoToTraining window

• Please complete the **feedback survey** which will launch at the end of the webinar.
Introduction to EMBL-EBI resources

Webinar
1 February, 2017

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Training Team
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www.ebi.ac.uk/training
EMBL-EBI staff

- Tom Hancocks
- Melissa Burke
- Jenny Cham
European Molecular Biology Laboratory

Heidelberg
Basic research

Hamburg
Structural biology

Hinxton
Bioinformatics

EMBL staff
1800 people
60+ nationalities

Grenoble
Structural biology

Monterotondo
Mouse biology
EMBL member states

Austria, Belgium, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom

Prospective member states

Poland, Slovakia, Hungary

Associate member states

Argentina, Australia
OUR MISSION

Services
Research
Training
Industry
Coordination
Our services

• Arranged in clusters

• Explore your subject or data type of interest
Our research

Genes, genomes & variation
- Paul Flicek
- Ewan Birney
- Moritz Gerstung
- Nick Goldman

Proteins & macromolecular structures
- Gerard Kleywegt
- Janet Thornton
- Alex Bateman

Gene, protein & metabolite expression
- Anton Enright
- Oliver Stegle
- John Marioni
- Alvis Brazma

Chemical biology
- Christoph Steinbeck

Pathways, systems
- Pedro Beltrao

New Leaders in 2017
- Zamin Iqbal
- Eva Petsalaki
Our training

TRAINING
On-site

Delivering courses to develop practical skills and knowledge; led by EMBL-EBI experts and hosted in our purpose-built training suite.

TRAINING
Off-site

Sending our dedicated trainers to host organisations to provide hands-on training on EMBL-EBI data, tools and resources.

TRAINING
Online

Providing free access to EMBL-EBI courses; allowing individuals to choose when, where and how they learn.
We train scientists at all levels to get the most out of publicly available biological data.

Follow us on Twitter and sign up to the EMBL courses and conferences newsletter.

Training events

January 2017

30 Data Visualisation for Biology: a practical workshop on design, techniques and tools

European Bioinformatics Institute (EMBL-EBI) - Cambridge, United Kingdom
30th Jan - 3rd Feb
This workshop will give insights and practical experience in data visualisation for exploring biological data.
Open application with selection

February 2017

1 EMBL-EBI resources: an introduction
1st Feb
The EMBL-EBI is the home of the world’s most comprehensive range of freely available molecular databases and resources. Our resources help researchers share and analyse data and perform complex queries in many different applications.

Online courses

ArrayExpress: Discover functional genomics data quickly and easily

ArrayExpress is a database of functional genomics data. This course will give you an overview of how these data are stored in ArrayExpress and will teach you how to effectively search and retrieve data from the ArrayExpress website.
Course...

ArrayExpress: Quick tour

This quick tour provides an overview of EMBL-EBI’s functional genomics database ArrayExpress. This course was updated in December 2015. An undergraduate-level understanding of biology is an advantage. You may wish to have a look at our Functional...

Biocuration: An Introduction

Claire O’Donovan, leader of the Protein Function Content team at EMBL-EBI, gives an introduction into biocuration and talks about what it is like to work as a biocurator and the
Metabolomics is the large-scale study of small molecules, commonly known as metabolites, within cells, biofluids, tissues or organisms. Collectively, these small molecules and their interactions within a biological system are known as the metabolome.

Figure 1 An overview of the four major "omics" fields, from genomics to metabolomics.

Just as genomics is the study of DNA and genetic information within a cell, and transcriptomics is the study of RNA and differences in mRNA expression; metabolomics is the study of substrates and products of metabolism, which are influenced by both genetic and environmental factors (Figure 1).

Metabolomics is a powerful approach because metabolites and their concentrations, unlike other "omics" measures, directly reflect the underlying biochemical activity and state of cells / tissues. Thus metabolomics best represents the molecular phenotype.
www.ebi.ac.uk/training/online/

Train online

Why register?
Access quizzes | Track your learning | Pick up where you left off | Be the first to know

Filter by: Topic
- DNA & RNA
- Literature
- Gene Expression
- Systems
- Ontologies
- Proteins

ArrayExpress: Discover functional genomics data quickly and easily
Author(s): Anja Füllgrebe
ArrayExpress is a database of functional genomics data. This course will give you an overview of how these data are stored in ArrayExpress and will teach you how to effectively search and retrieve data from the...

- Gene Expression
- 2 hours

Gene expression | Functional genomics | Data search, query and retrieval

Tutorials | Webinars | Quick tours | Conceptual courses
Industry Programme at EMBL-EBI
What do we do?

Biological data provision
Big data, big demand

- Approximately 18.5 million requests to EMBL-EBI websites every day
- Scientists at over 5 million unique sites use EMBL-EBI websites
- EMBL-EBI handles 9.2 million jobs on average per month
- 60 petabytes of EMBL-EBI storage capacity
Big data, big demand

200GB in 1996    238TB in 2006    16PB in 2012


- 40 DVDs
- US Library of Congress
- 1 year of data at LHC!
Data resources at EMBL-EBI

Genes, genomes & variation
- European Nucleotide Archive
- European Variation Archive
- Ensembl
- Ensembl Genomes
- GWAS Catalog
- Metagenomics Portal
- European Genome-phenome Archive

Gene, protein & metabolite expression
- RNA Central
- ArrayExpress
- Expression Atlas
- Metabolights
- PRIDE

Protein sequences, families & motifs
- InterPro
- Pfam
- UniProt

Molecular structures
- Protein Data Bank in Europe
- Electron Microscopy Data Bank

Chemical biology
- ChEMBL
- SureChEMBL
- ChEBI

Systems
- BioModels
- BioSamples
- Enzyme Portal
- IntAct
- Reactome

Literature & ontologies
- Europe PubMed Central
- Gene Ontology
- Experimental Factor Ontology
Database interactions

- Collaborative community facilitates social, scientific and technical interactions

- Right: internal interactions between data resources as determined by the exchange of data.

- Width of each internal arc weighted according to the number of different data types exchanged.
Our users
Navigating the EBI
Poll question!

• Have you used an EMBL-EBI resource before?
The European Bioinformatics Institute (EMBL-EBI) maintains the world’s most comprehensive range of freely available and up-to-date molecular databases.

Developed in collaboration with our colleagues worldwide, our services let you share data, perform complex queries and analyse the results in different ways. You can work locally by downloading our data and software, or use our web services to access our resources programmatically.

You can read more about our services in the journal *Nucleic Acids Research*.
Data submission

Use this data submission wizard to find the right archive for your data in a few simple steps.

What type of data do you have?
- DNA/RNA sequence
- Expression data
- Protein data
- Structures
- Systems
- Chemical biology
- Ontologies
- Multi-omics or other cross-domain study

Why submit data to an archive?
Submission of primary data and derived information to public data repositories is an essential step in the scientific process. Through submission, the scientific community is fed the raw materials for the building and maintenance of the complete and up-to-date data sets that support searches and analysis on the latest sequences, structures and molecular profiles of living systems. Serving as a complement to the literature publication process and supporting early data sharing, the EBI offers a number of submission services appropriate for different types and scales of data.

If you need help with your data submission, please contact support.
The European Bioinformatics Institute

The home for big data in biology

At EMBL-EBI, we use bioinformatics — the science of storing, sharing and analysing biological data — to help people everywhere understand how living systems work, and what makes them change.

Find a gene, protein or chemical:

Examples: blast, keratin, btf1, Janet Thornton...

Explore EMBL-EBI

Services >  Research >  Training >  Industry >  ELIXIR >

Featured events

30 Jan 2017 - 3 Feb 2017

Data Visualisation for Biology: a practical workshop on design, techniques and tools

This workshop will give insights and practical experience in data visualisation for exploring biological data.

31 Jan 2017 - 31 Jan 2017

The Virtual Metabolic Human and ReconMap: resources for genome scale metabolic reconstructions and visualization

The Virtual Metabolic Human and

1 Feb 2017 - 1 Feb 2017

EMBL-EBI resources: an introduction

The EMBL-EBI is the home of the world's most comprehensive range of freely available molecular databases and resources...

Popular

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Search results for **BRCA1**

Showing 42 results out of 50,877 in All results

### Gene & protein summaries (includes expression, structures, literature...)

1. **BRCA1**, DNA repair associated
   - **BRCA1** (PSCP, RNF53, PPP1R53, BRCC1, PNCA4, BRCA1, FANCS, BROVCA1, IRIS, ENSG00000012048)
   - **Human** (Homo sapiens)

2. **Breast cancer 1, early onset**
   - **Brca1** (ENSMUSG00000017146)
   - **House Mouse** (Mus musculus)

### Enzymes

1. **Fanconi anemia group J protein homolog**
   - Fanconi anemia group J protein homolog

2. **Fanconi anemia group J protein**
   - Fanconi anemia group J protein
BRCA1, DNA repair associated

Gene Information and Sequence
- BRCA1 spans 125051 bps of chromosome 17 from 43044295 to 43170245.
- BRCA1 has 30 transcripts containing a total of 101 exons on the reverse strand.
- Annotation for this gene includes both automatic annotation from Ensembl and Havana manual curation, see article.
- View the gene sequence in Ensembl.
- View the chromosome region for this gene in Ensembl.

Variations
- BRCA1 has 11093 SNPs.
- View sequence variations such as polymorphisms, along with genotypes and disease associations in Ensembl.

Orthologues
- BRCA1 has 65 orthologues in Ensembl.
- View homology between species inferred from a gene tree in Ensembl.

Paralogues
- BRCA1 has no paralogues in Ensembl

Regulation
- There are 9 regulatory elements located in the region of BRCA1.
- View the gene regulatory elements, such as promoters, transcription binding sites, and enhancers in Ensembl.
Where to get help?

Support & feedback
Use this form if you are having problems using one of the EMBL-EBI services or tools, or if you would just like to send us some feedback.

- Your email address
- Topic: General Feedback or Please Select
- Subject
- Your Message

Please do not use HTML or XML in your message as this will be blocked by our spam filter.

Send your message
Social Media

• @EBItraining
  • Follow for updates on training courses and events
• @EMBLEBI
  • Follow us for updates and news about EBI
• twitter.com/emblebi/lists/embl-ebi-tweeties
  • EBI twitterati…
• facebook.com/EMBLEBI
  • Like us for course and event pictures from EBI
Acknowledgements
Upcoming webinars

See the full list of upcoming webinars at http://www.ebi.ac.uk/training/webinars

Feedback survey

Tell us what you think
Thank you for listening!
Any questions?