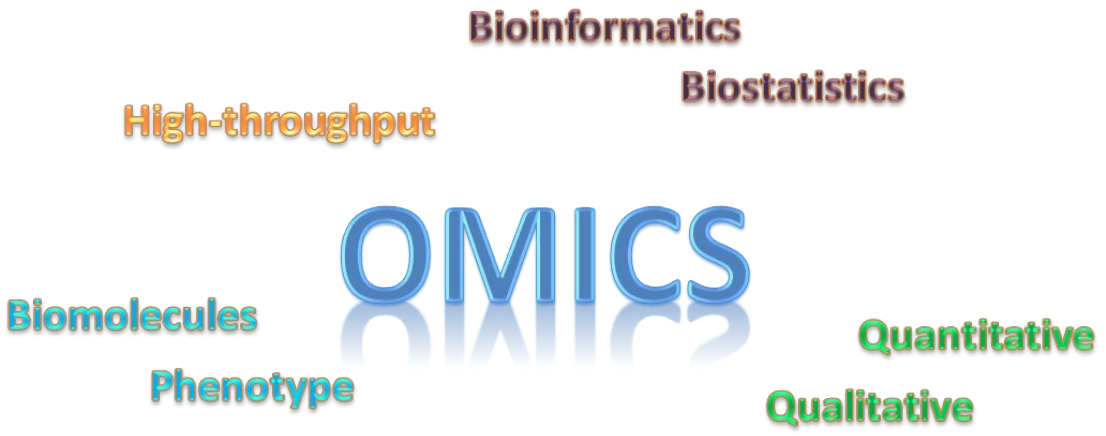
Electronic Supplementary Material (ESI) for Molecular BioSystems.

Omics	Method	Target	Animal	Disease	Ref
G	QTL	DNA	Trout	Bacterial water	5
G	GWAS	DNA	Cow	Paratuberculosis	9
G	GWAS	DNA	Human	Alzheimer	10
T	Microarray qRT-PCR	mRNA	Chicken	Infectious bursal	15
T	Microarray qRT-PCR	mRNA	Salmon	Alphavirus Reovirus	16
T	SAGE	mRNA	Deer	Paratuberculosis	17
T	Microarray qRT-PCR	miRNA	Dog	Cardiomyopathy	22
T	qRT-PCR	miRNA	Human	Osteoporosis	23
T	RNAseq	miRNA	Cow	Paratuberculosis	24
P	LC/MS	Proteins	Salmon	Amoebic gill	27
P	Electrophoresis LC/MS	Proteins	Cow	Mastitis	28
P	2D-DIGE	Proteins	Cow	Paratuberculosis	29
M	GS/MS	Metabolites	Dog	Inflammatory bowel	32
M	HPLC	Metabolites	Cow	Hepatic lipidosis	33
E	Methylation assay	DNA	Human	Anaplasmosis	35
G+T+I	GWAS/RNAseq *In silico*	DNA/mRNA	Pigs	Obesity	39
G+T+P	DNAseq/RNAseq LC/MS	DNA/mRNA/Proteins	Rat	Hypertension	40

Used omics publications in animal diseases

This table gives the references used to illustrate omics applied to animal disease. The first column indicates what type of omics was used: Genomics (G), Transcriptomics (T), Proteomics (P), Metabolomics (M), Epigenomics (E), or a combination. Methodology was used is indicated in the second column, type of targeted molecule(s) in the third, animal studied in the fourth, disease studied in the fifth, and the reference in the sixth. QTL=Quantitative Trait Loci / GWAS=Genome Wide Association Study / GS=Gas Chromatography / LC=Liquid Chromatography / MS=Mass Spectrometry / HPLC=High Pressure Liquid Chromatography. References illustrate the omics global utilization for every animal, type of diseases and targeted molecule.



Omics in 7 words

Omics aims to study relationships between phenotypes and biomolecules (DNA, RNA, Proteins, and Metabolites). Omics is a collection of high-throughput quantitative and qualitative techniques, using bioinformatics and biostatistics to analyze collected data.