



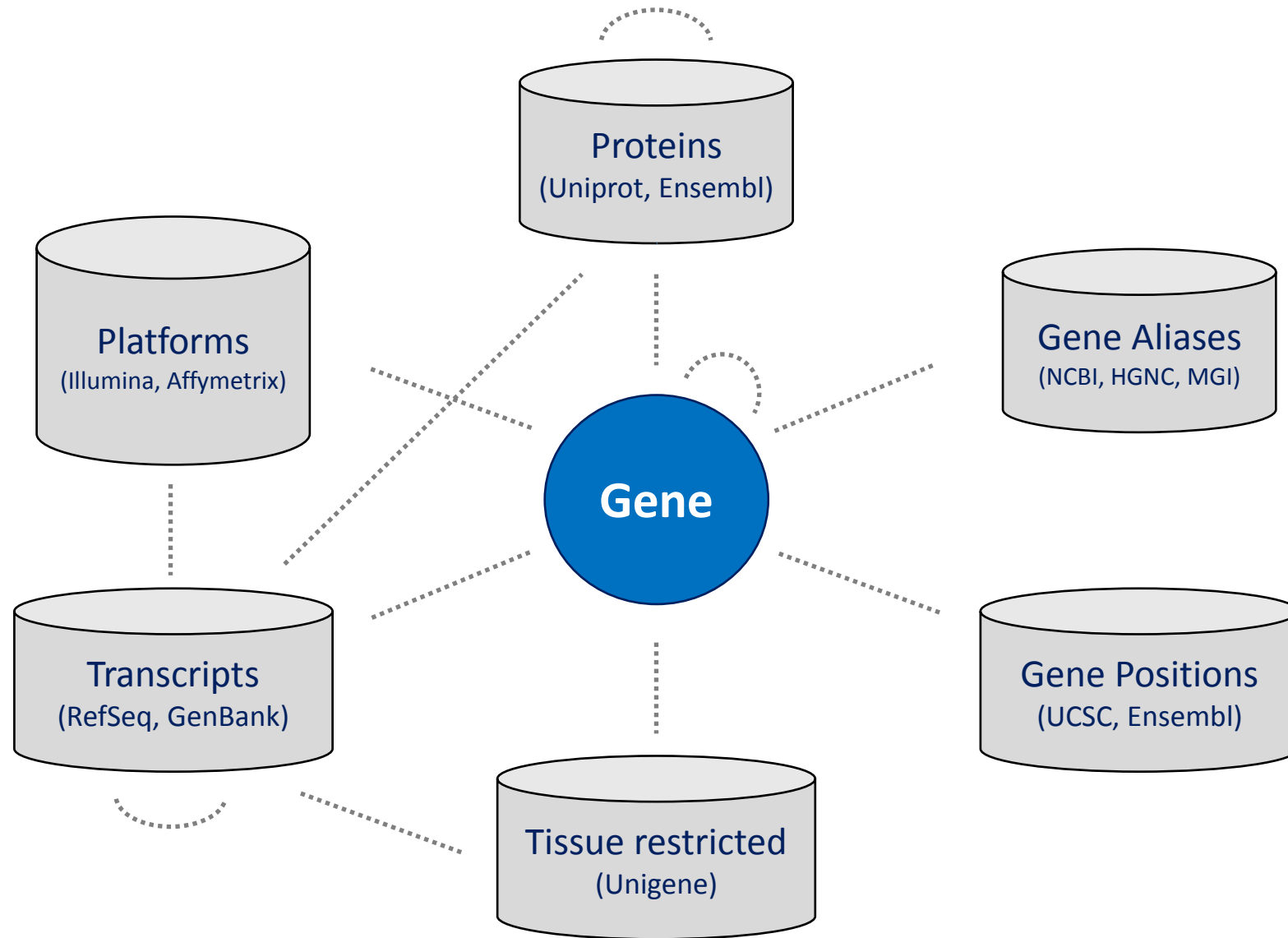
## **EpiMed Open Course – Session 3**

### **Update a list of gene symbols with EpiMed Database**

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# Navigate through gene-related data



## Example: testis-specific gene **NUTM1**

### Aliases of NUTM1

AF482429  
[C15orf55](#)  
CCDS32190  
CCDS61584  
CCDS61585  
DKFZp434O192  
ENSG00000184507  
FAM22H  
HGNC:29919  
[NM\\_175741](#)  
**NUT**  
NUTM1  
OTTHUMG00000172348  
Q86Y26  
[uc001zif.4](#)  
Hs.525769

### Methylation data

*GPL13534 Illumina HumanMethylation450 BeadChip*

Gene symbols	Probesets
C15orf55, NM_175741	cg01444726, cg12753858, cg12939464, cg18768283, cg24620418, cg26471610

### Expression array data

*GPL570 Affymetrix Human Genome U133 Plus 2.0 Array*

Gene symbols	Probesets
NUTM1	1564603_at, 231338_at

### RNA-seq data

*Assembly GRCh38 – hg38*

ID UCSC	chrom	strand	tx_start	tx_end	cds_start	cds_end	exon_count
uc001zif.4	chr15	+	34343314	34357737	34346019	34357491	8
uc010ucc.4	chr15	+	34343314	34357728	34343696	34357491	8
uc010ucd.4	chr15	+	34343409	34357737	34343632	34357491	7
uc059hhq.1	chr15	+	34345864	34357732	34346019	34357491	7

# How to update a list of gene symbols?

## Manual search on NCBI

The screenshot shows the NCBI Gene database interface. The search bar at the top contains the text "C15orf55", which is circled in red. Below the search bar, the gene name "NUTM1 NUT midline carcinoma family member 1 [ *Homo sapiens* (human) ]" is displayed. The gene ID is 256646, and it was updated on 8-Oct-2017. A "Summary" section is expanded, showing the following information:

Official Symbol	NUTM1 provided by <a href="#">HGNC</a>
Official Full Name	NUT midline carcinoma family member 1 provided by <a href="#">HGNC</a>
Primary source	<a href="#">HGNC:HGNC:29919</a>
See related	<a href="#">Ensembl:ENSG00000184507</a> <a href="#">MIM:608963</a> ; <a href="#">Vega:OTTHUMG00000172348</a>
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<a href="#">Homo sapiens</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Haplorrhini; Catarrhini; Hominidae; Homo
Also known as	NUT; FAM22H; C15orf55
Orthologs	<a href="#">mouse</a> <a href="#">all</a>

On the right side of the page, there is a "Table of contents" section with the following links: Summary, Genomic context, Genomic regions, transcripts, and products, Expression, Bibliography, Phenotypes, Variation, Interactions, General gene information (Clone Names, Homology, Gene Ontology), General protein information, NCBI Reference Sequences (RefSeq), and Related sequences.



# Update a list of gene symbols with EpiMed Database

http://epimed.univ-grenoble-alpes.fr/database/

EpiMed Database Clinical data **Gene annotations** API for R users

## Update a list of gene symbols

Submit a list of gene symbols and download updated gene symbols with their aliases

Recognized symbols: Entrez Gene ID, current and previous gene symbols, probesets, accession numbers from UniGene, UCSC, Ensembl, Uniprot, ...

Homo sapiens  Mus musculus

List of genes: C15orf55, SPGF21, DKFZp667N1320, P04637

Submit

50 %

	A	B	C	D	E	F	G	H	I	J
1	<b>your_input</b>	<b>tax_id</b>	<b>entrez</b>	<b>gene_symbol</b>	<b>title</b>	<b>location</b>	<b>chrom</b>	<b>status</b>	<b>aliases</b>	<b>database</b>
2	C15orf55	9606	256646	<b>NUTM1</b>	NUT midline carcinoma family member	15q14	15	active	[HGNC:29919, MIM:60	EpiMed GENALIAS
3	SPGF21	9606	676	<b>BRDT</b>	bromodomain testis associated	1p22.1	1	active	[MIM:602144, RGD:13	EpiMed GENALIAS
4	DKFZp667N1320	9606	29028	<b>ATAD2</b>	ATPase family, AAA domain containing	28q24.13	8	active	[uc003yqh.5, MGC298	EpiMed GENALIAS
5	P04637	9606	7157	<b>TP53</b>	tumor protein p53	17p13.1	17	active	[CCDS11118, P04637,	EpiMed GENALIAS
6										

EpiMed data 2017.10.18

Demonstration

<http://epimed.univ-grenoble-alpes.fr/database/>

# Quiz

## Quiz 1 - EpiMed Database: Update a list of genes

**FILL OUT FORM**

<https://docs.google.com/forms/d/e/1FAIpQLSdtkCynPExJo3oFhmtnE-9lwgx3SBI8zCXCREWshm6saKV1tQ/viewform?vc=0&c=0&w=1>

Link to EpiMed Database

<http://epimed.univ-grenoble-alpes.fr/database/>

Questions? Please, send an e-mail to

[epimed-open-course@univ-grenoble-alpes.fr](mailto:epimed-open-course@univ-grenoble-alpes.fr)