

A Single query

hg38

hg38

hg19

felCat9

nomLeu3

sacCer3

micOch1

capHir1

Default

oviAri1

Genomic Coordinate

Ensembl Transcript ID

dbSNP ID

Genomic Region

hg38

hg19

4 search patterns
For human (hg38 and hg19 reference genomes)
9 search patterns

B Keyword query

* Keyword

✓ Retrieve
✖ Reset

Examples:
"Breast Cancer"
Asthma
capecitabine
butorphanol
"T cell, CD4, naive [activated]"
hsa-miR-4683
developmentalDisorder
"Undiagnosed developmental disorders"

C Batch query

* Search Type

Genomic Coordinate
 Gene Name
 Ensembl Transcript ID
 dbSNP ID
 Genome Region
 Ensembl Gene ID
 Refseq Transcript ID
 HGVS_C
 HGVS_g

* Input

```
1_24401358_T/A
1_24401361_G/A
1_24401357_G/A
1_24401355_C/T
```

✓ Retrieve
✖ Reset

Genome

hg38

✓ Retrieve
✖ Reset

Supplemental Figure S9. Diverse search patterns in SynMall. The search interface offers multiple ways to explore mutations. (A) Single Query enables quick identification, supporting multiple reference genomes and search patterns. (B) Keyword Query supports natural language queries for intuitive exploration. (C) Batch Query allows efficient bulk searches, handling up to 1,000 lines at a time.