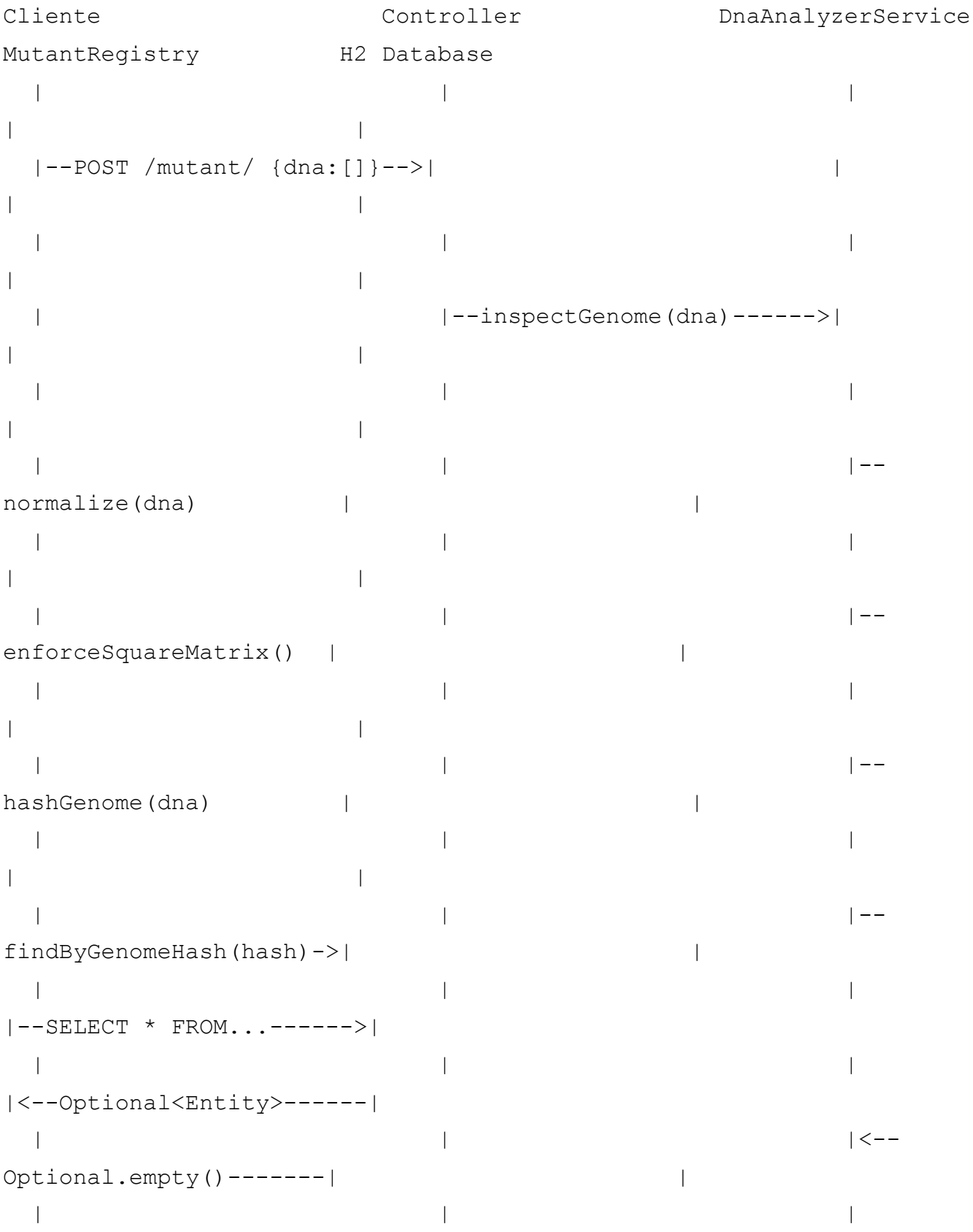
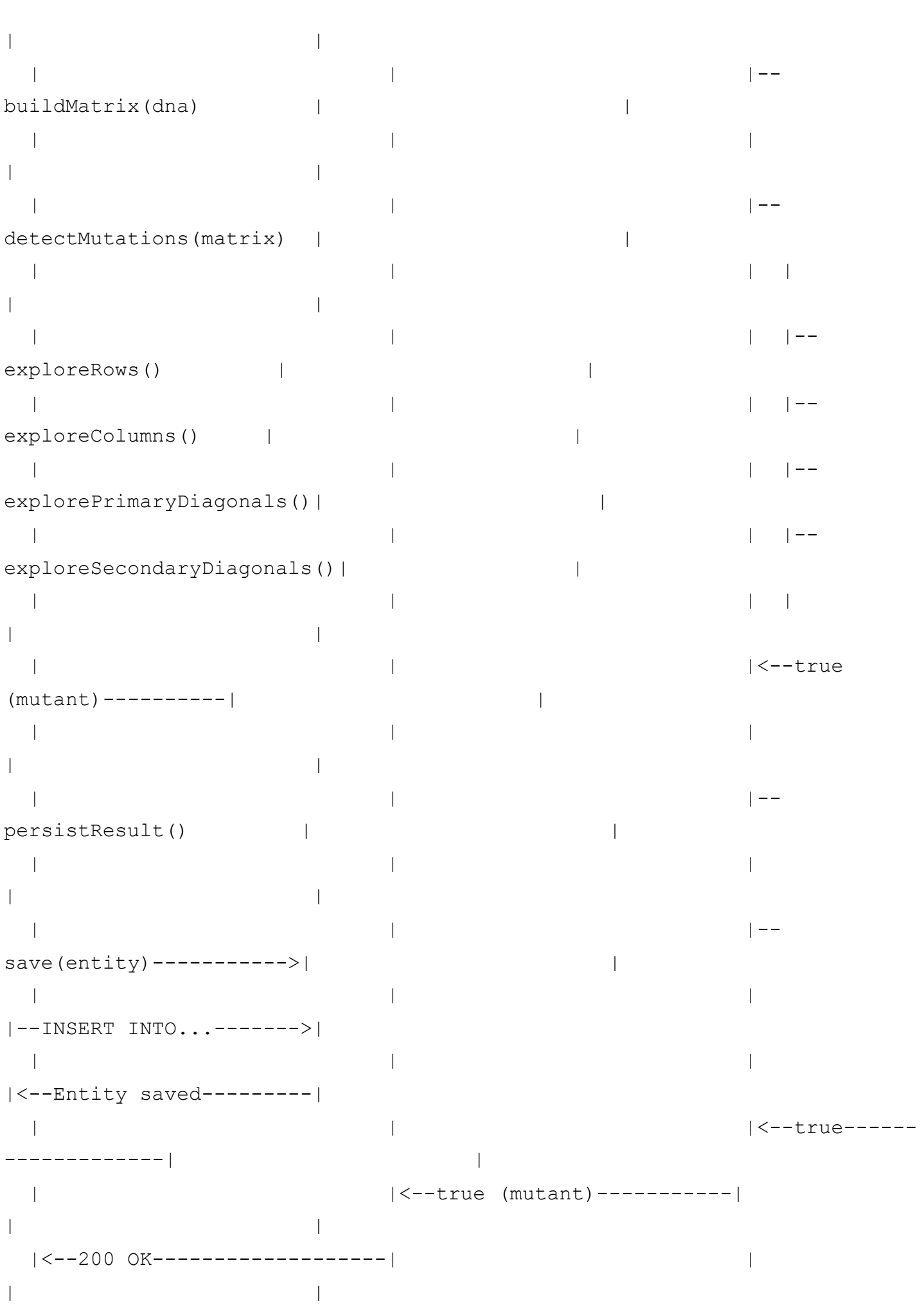
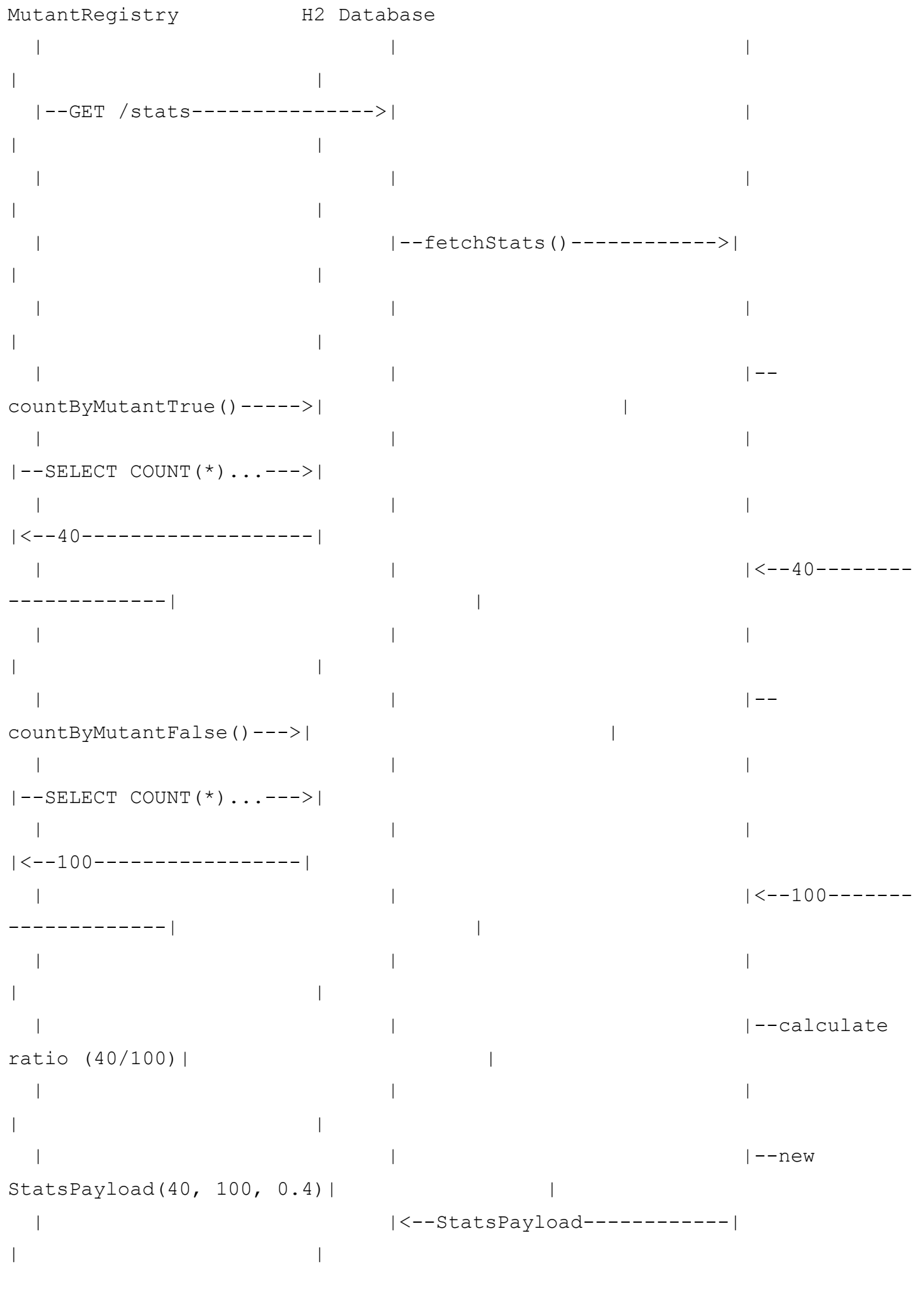
# Diagrama de Secuencia - Mutant Detector API

## Flujo: POST /mutant/





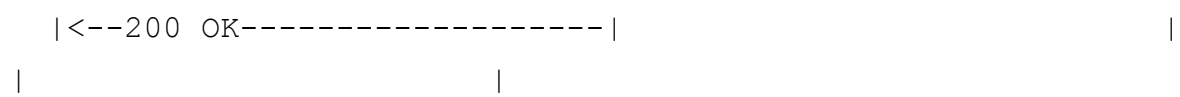

## Flujo: GET /stats


Cliente
Controller
DnaMetricsService
MutantRegistry
H2 Database
--GET /stats-->
--fetchStats()-->
countByMutantTrue()-->
--SELECT COUNT(*)...-->
<--40--
countByMutantFalse()-->
--SELECT COUNT(*)...-->
<--100--
ratio (40/100)
StatsPayload(40, 100, 0.4)
<--StatsPayload--

```
  |<--200 OK {count_mutant_dna:40, count_human_dna:100, ratio:0.4}--|
|                          |                          |
```

# Flujo: POST /mutant/ (con caché)

```
Cliente                    Controller              DnaAnalyzerService
MutantRegistry          H2 Database
  |                          |                          |
|                          |
  |--POST /mutant/ {dna:[]}-->|                         |
|                          |
  |                          |                          |
|                          |
  |                          |--inspectGenome(dna)------>|
|                          |
  |                          |                          |
|                          |
  |                          |                          |--
normalize(dna)           |                       |
  |                          |                          |
|                          |
  |                          |                          |--
hashGenome(dna)          |                       |
  |                          |                          |
|                          |
  |                          |                          |--
findByGenomeHash(hash)->|                       |
  |                          |                          |
|--SELECT * FROM...------>|
  |                          |                          |
|<--Optional<Entity>------|
  |                          |                          |<--
Optional.of(entity)----|                       |
  |                          |                          |
|                          |
  |                          |                          |--
entity.isMutant()        |                       |
  |                          |                          |
|                          |
  |                          |<--true (cached)------------|
|                          |
```


|<--200 OK--------------------|