

FIG. 1A

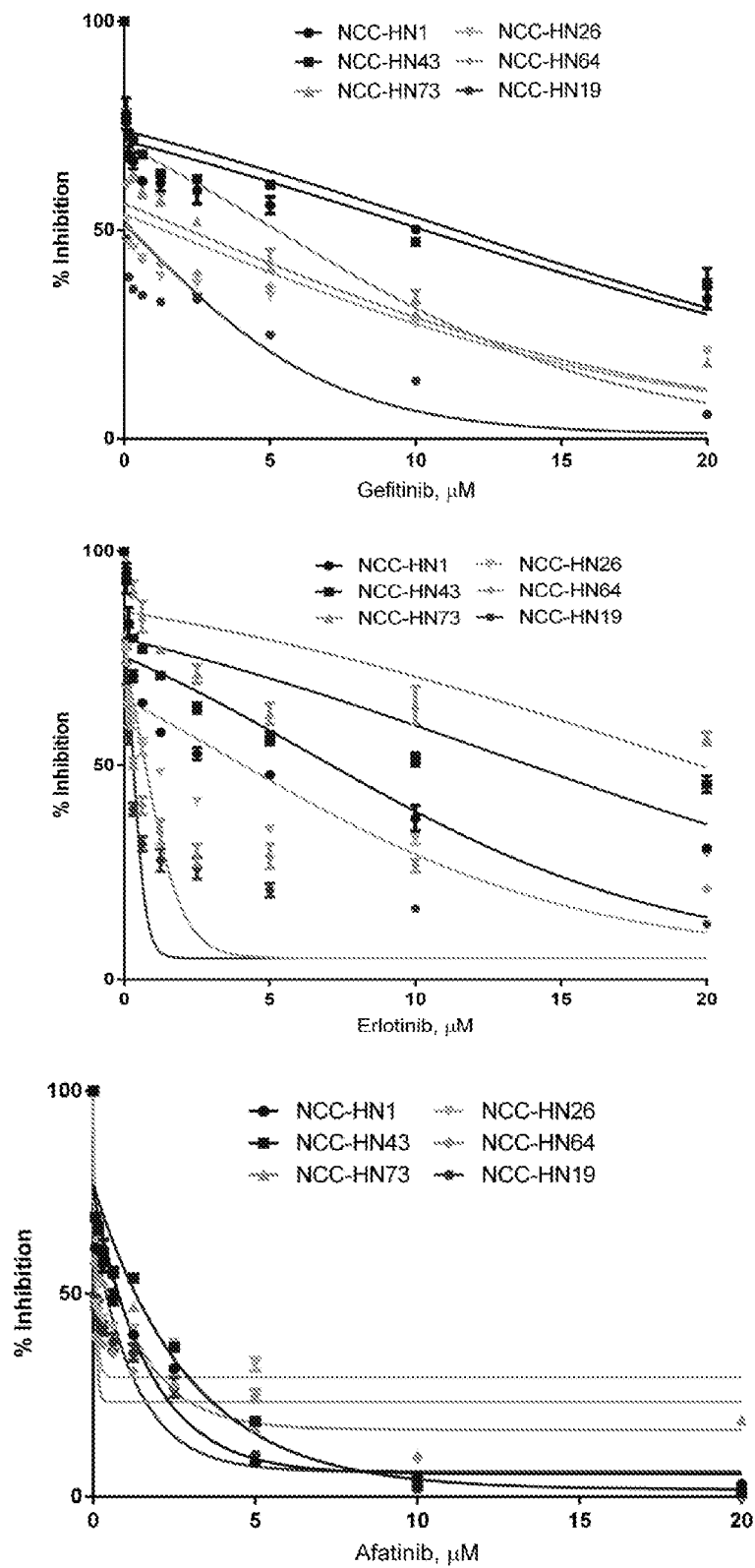


**FIG. 1B**

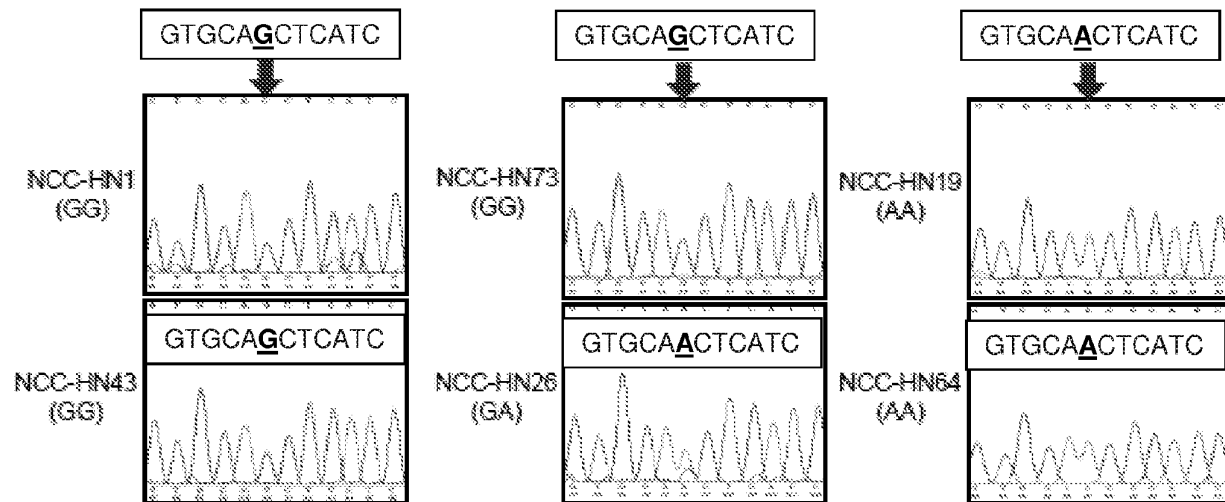


**FIG. 1C**

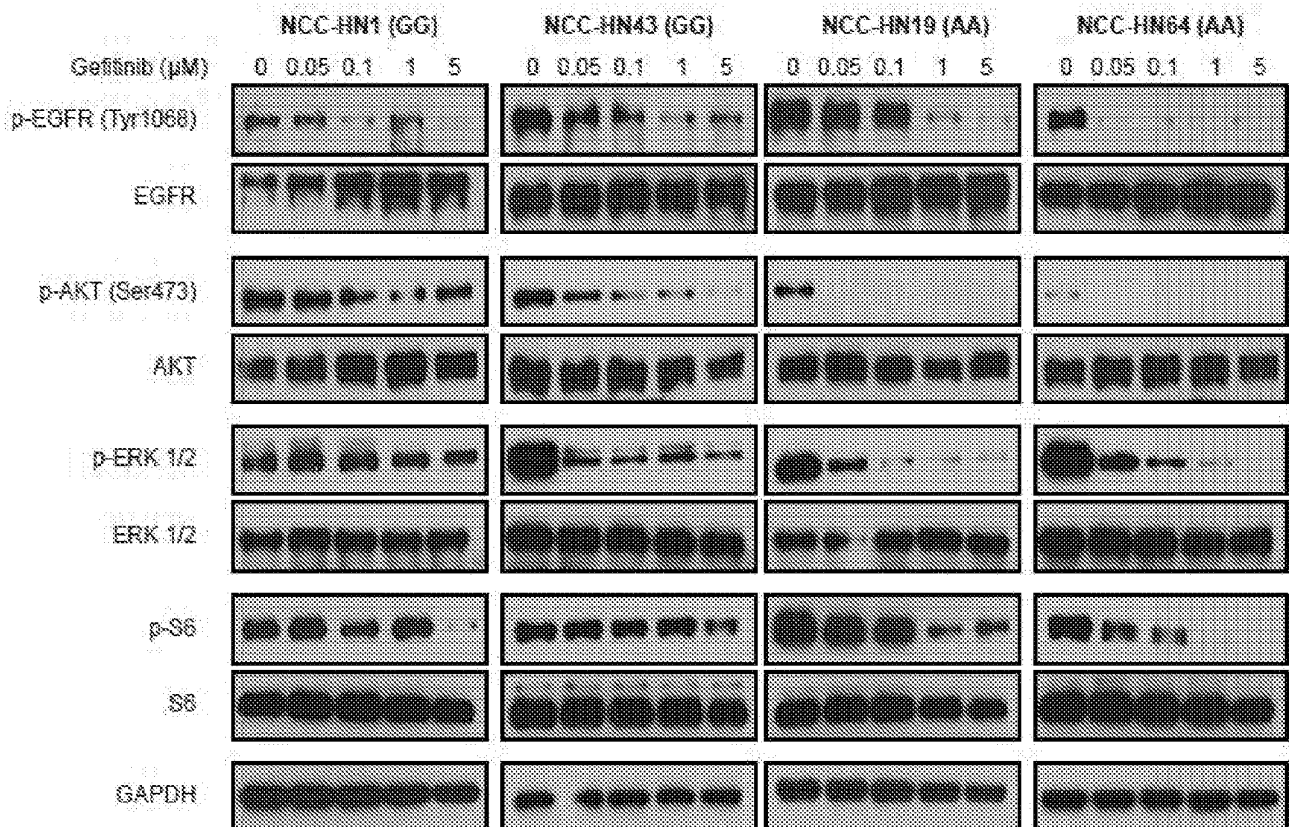


FIG. 1D

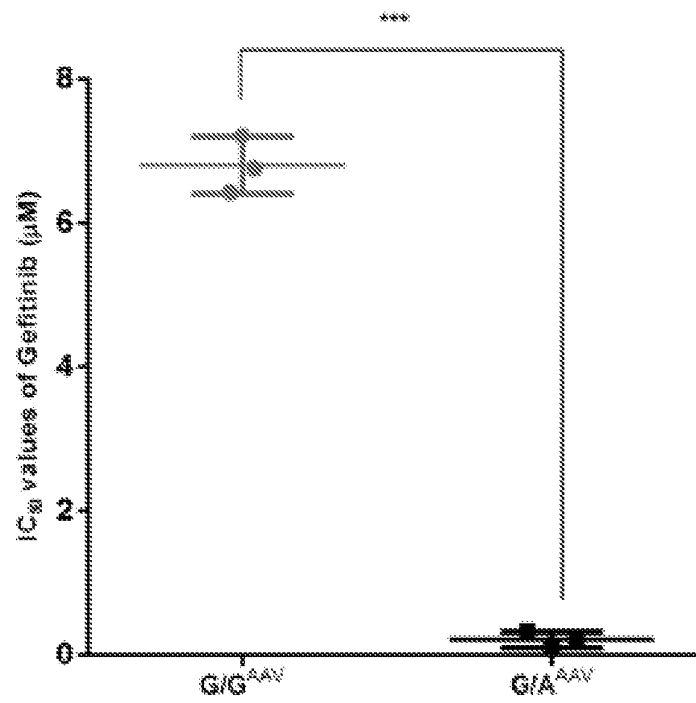


FIG. 1E

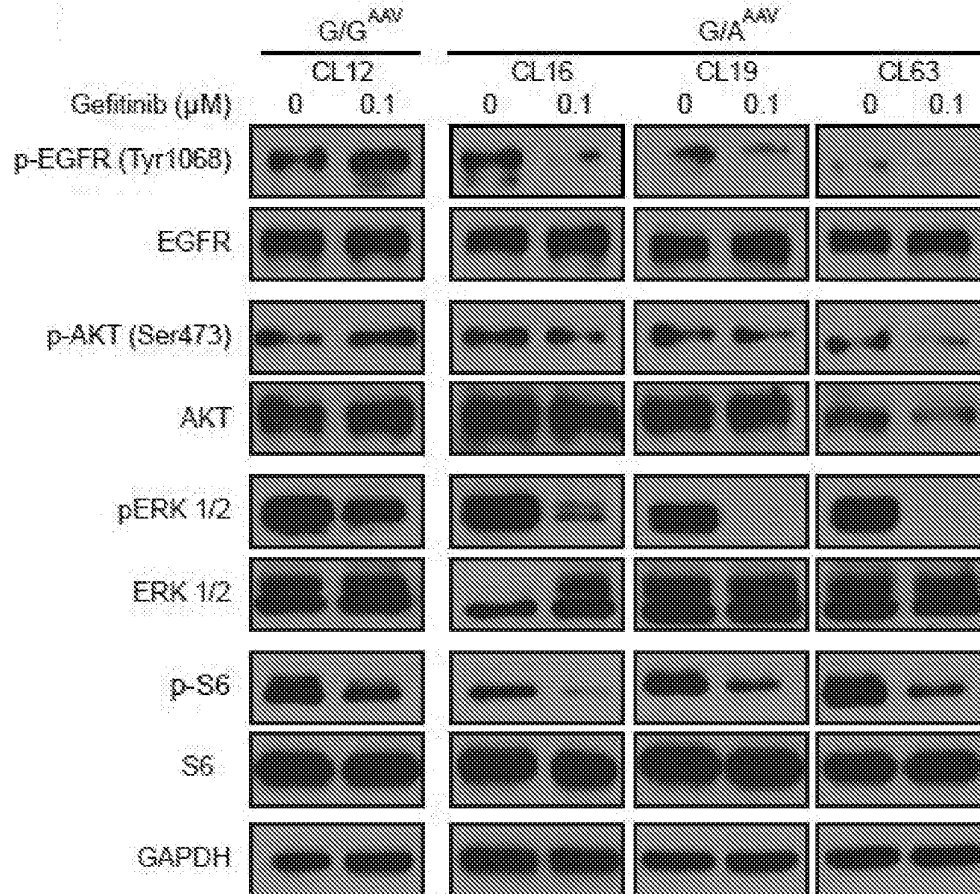
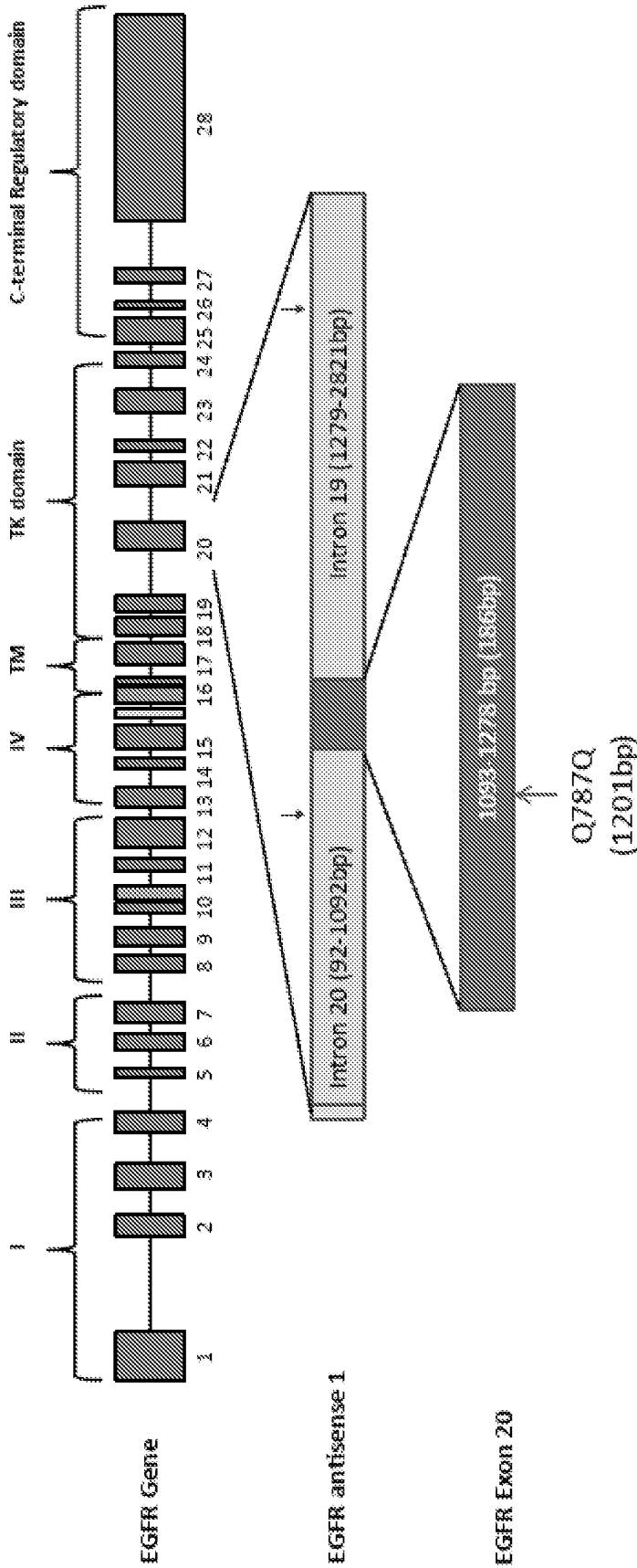
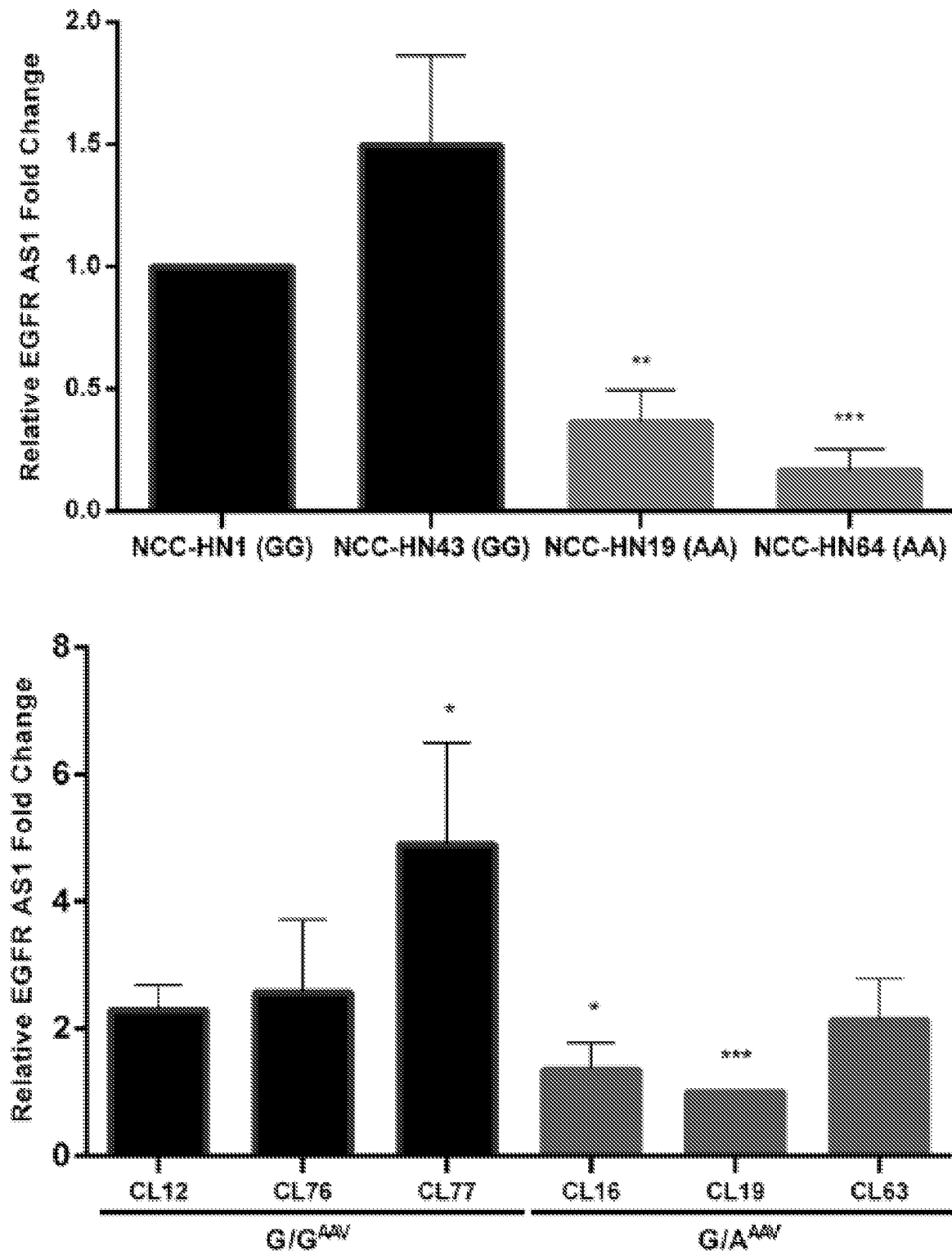


FIG. 2A



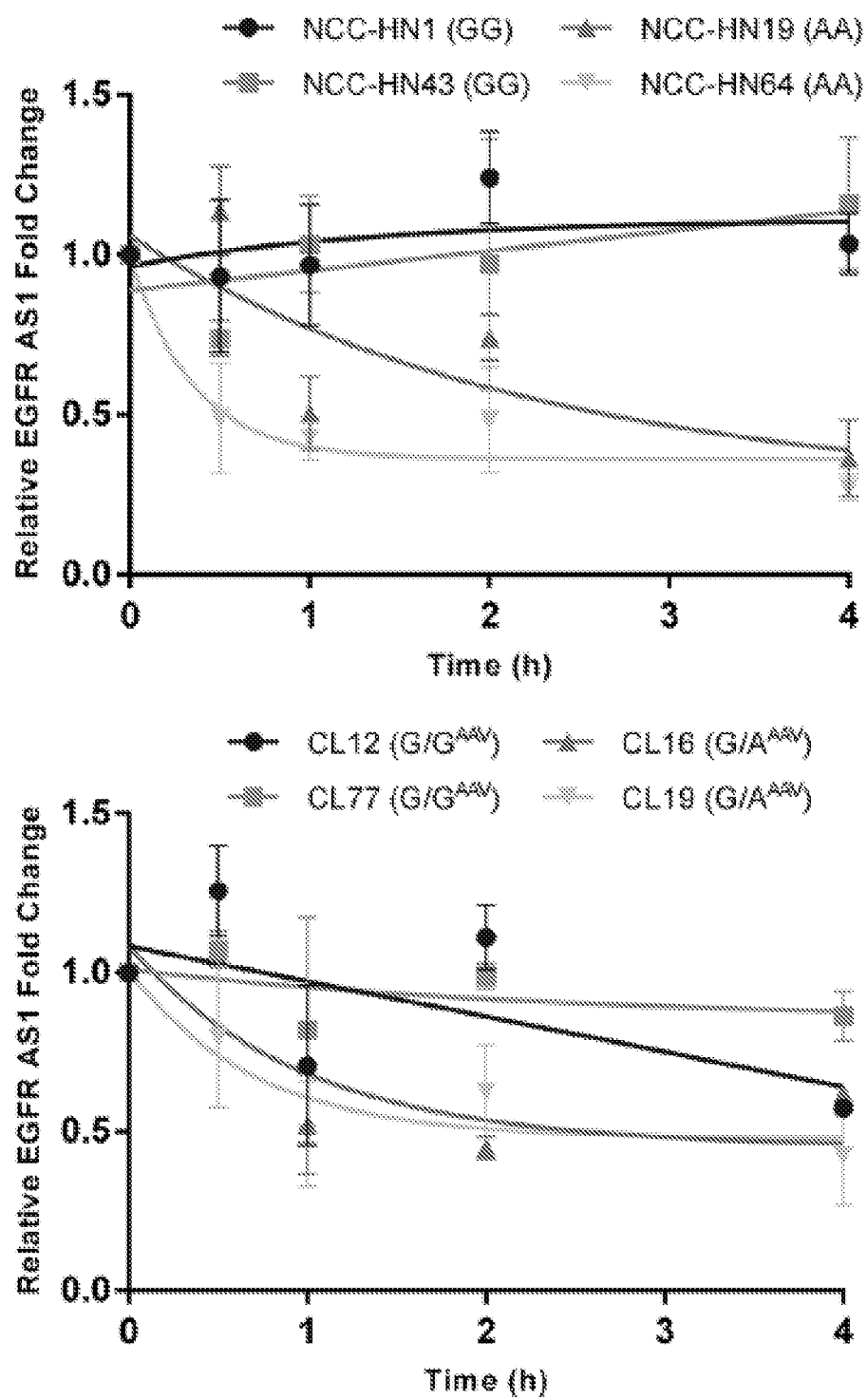
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FIG. 2B



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FIG. 2C



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FIG. 2D

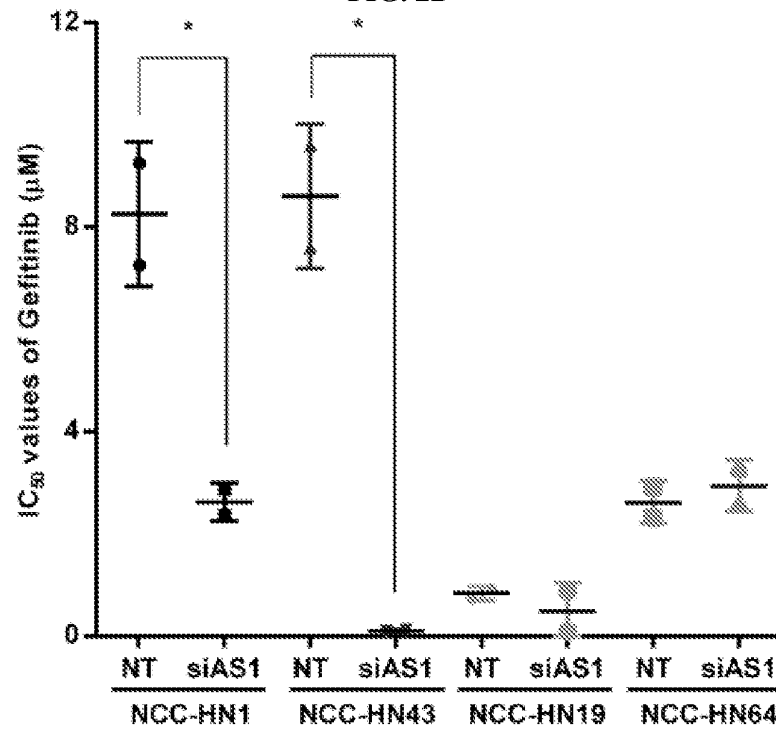
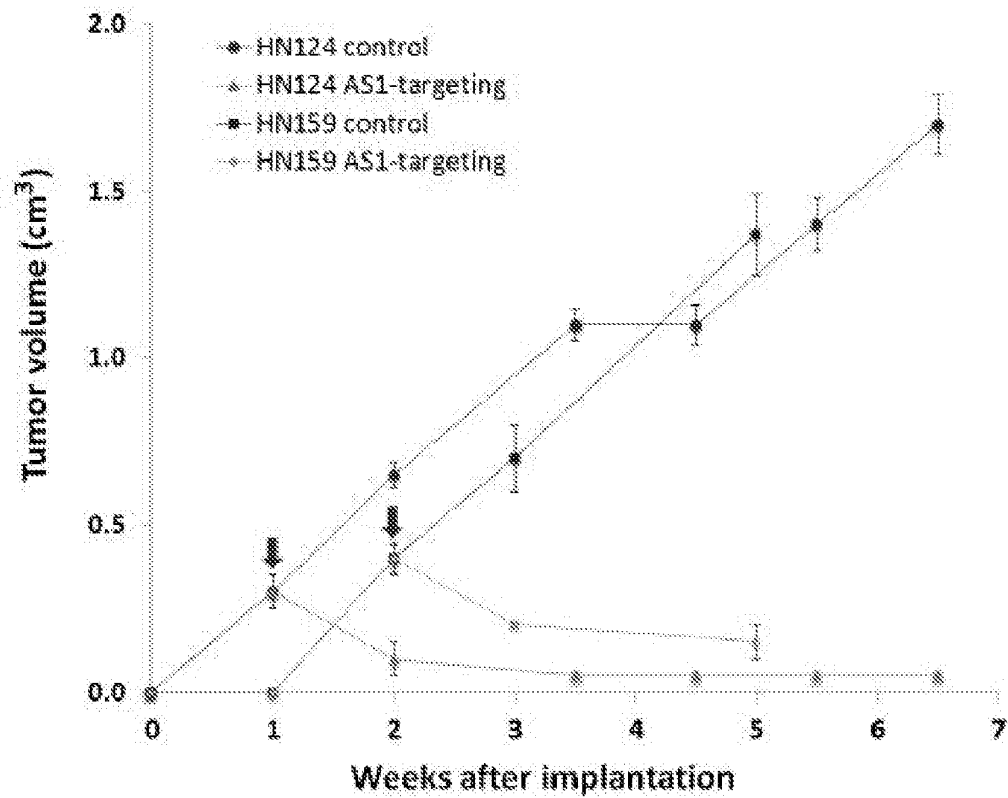


FIG. 2E

In vivo tumor growth curve



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FIG. 3A

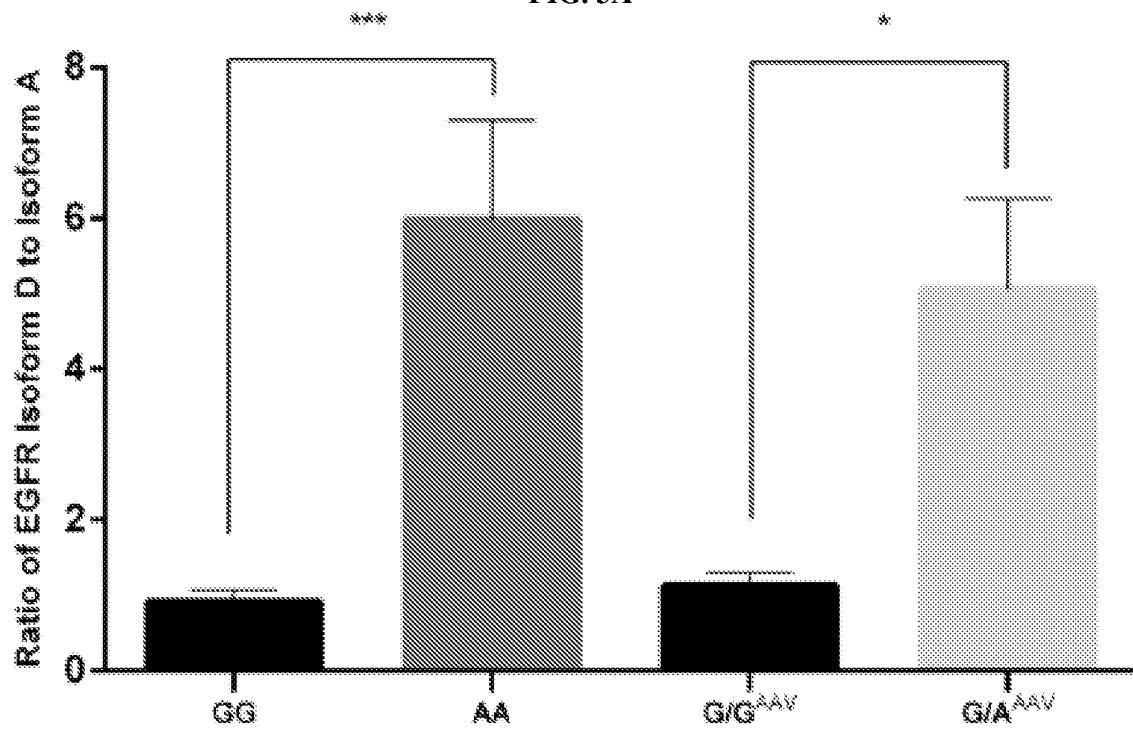
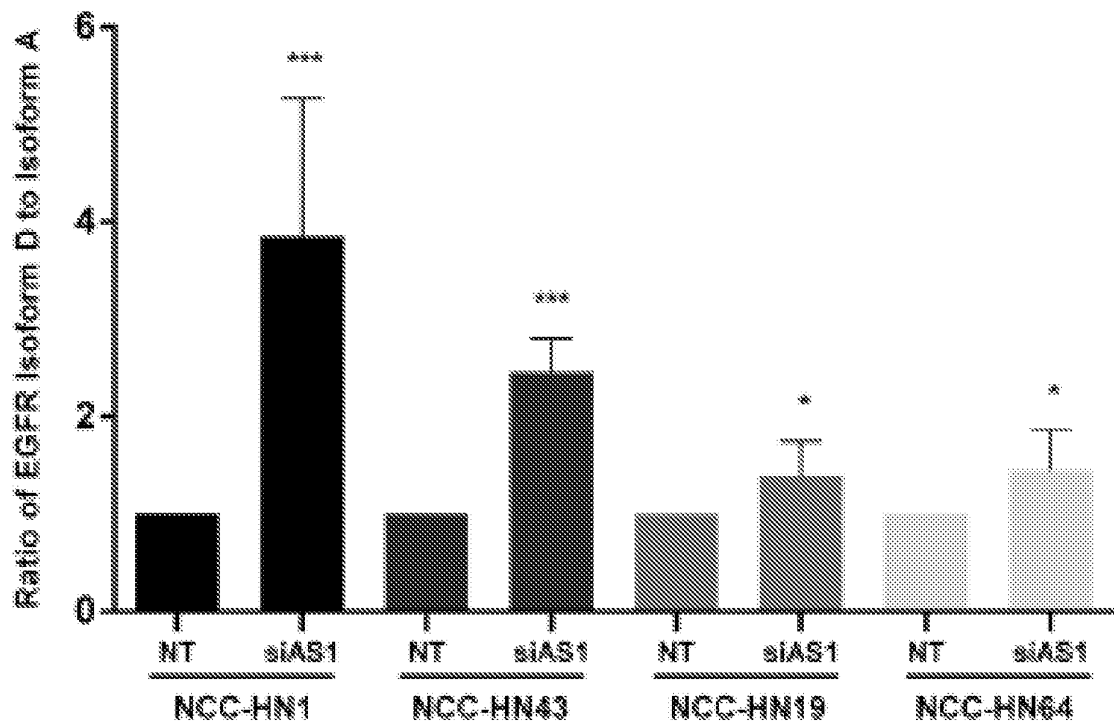
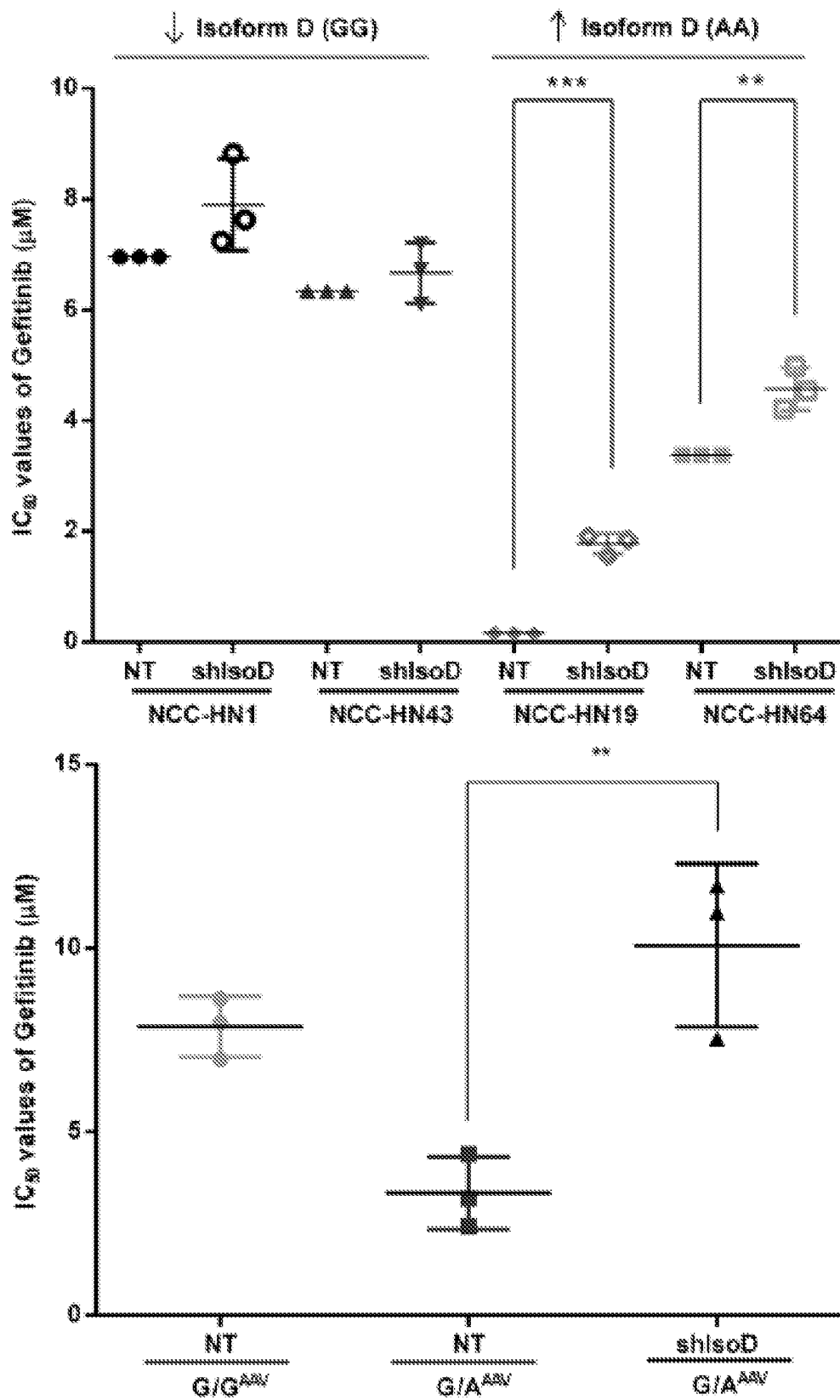


FIG. 3B



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FIG. 3C



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FIG. 3D

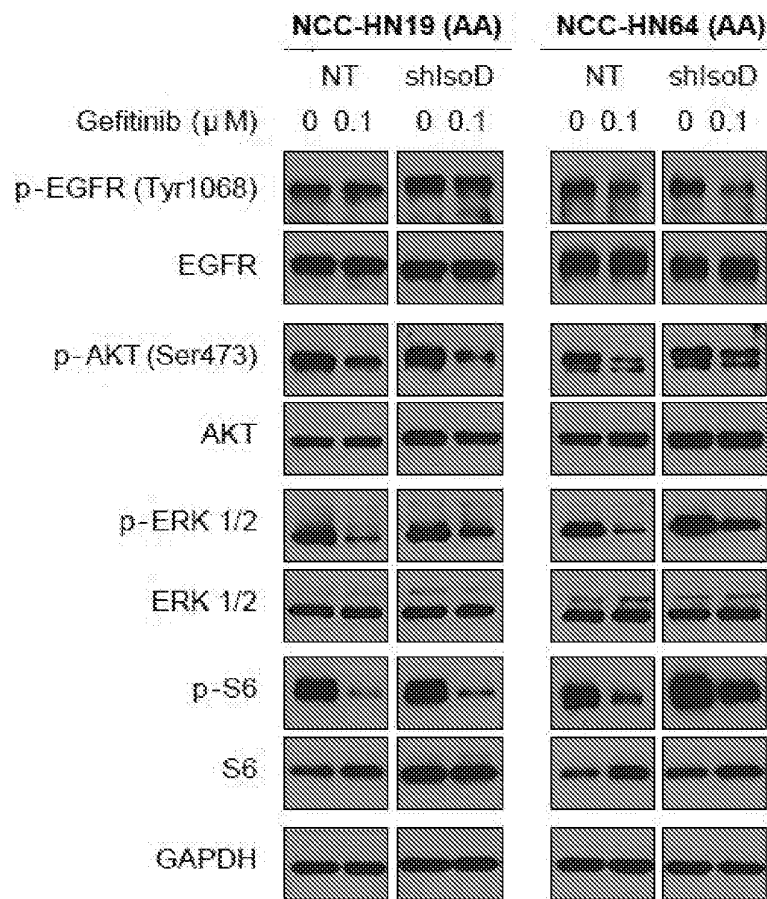
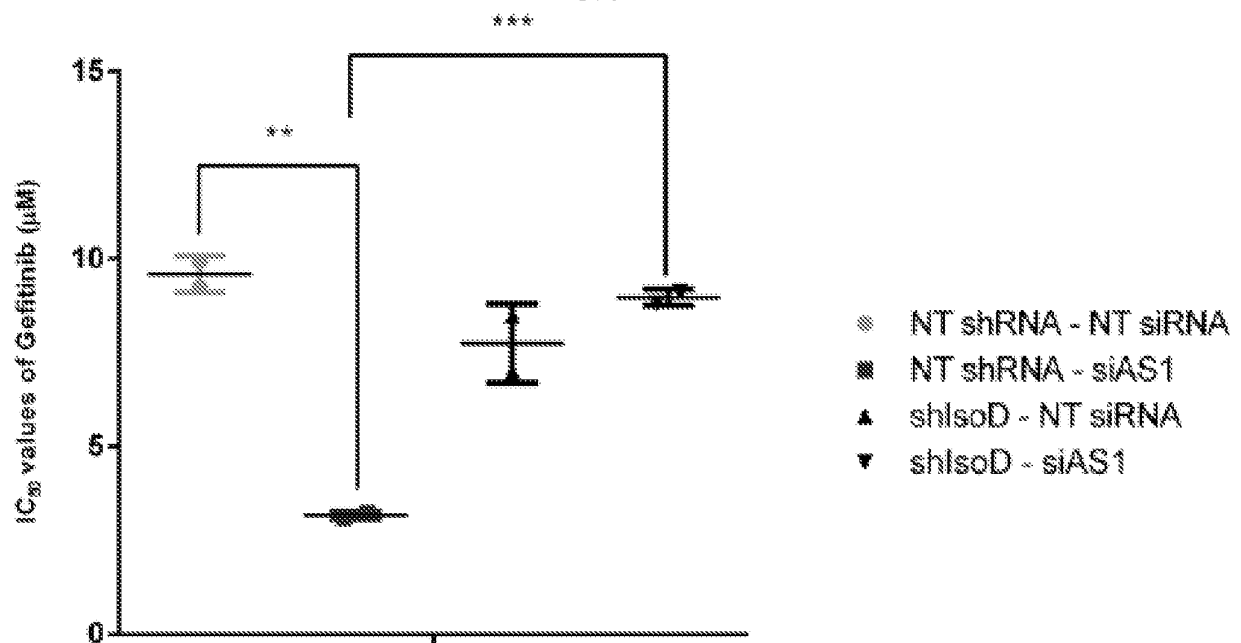


FIG. 3E



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FIG. 3F

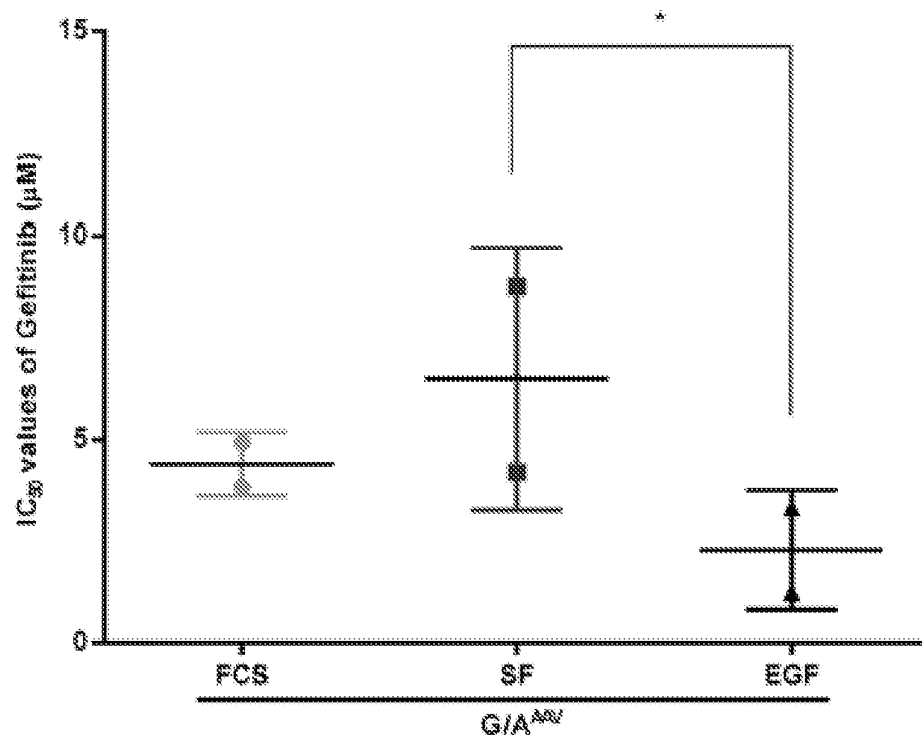
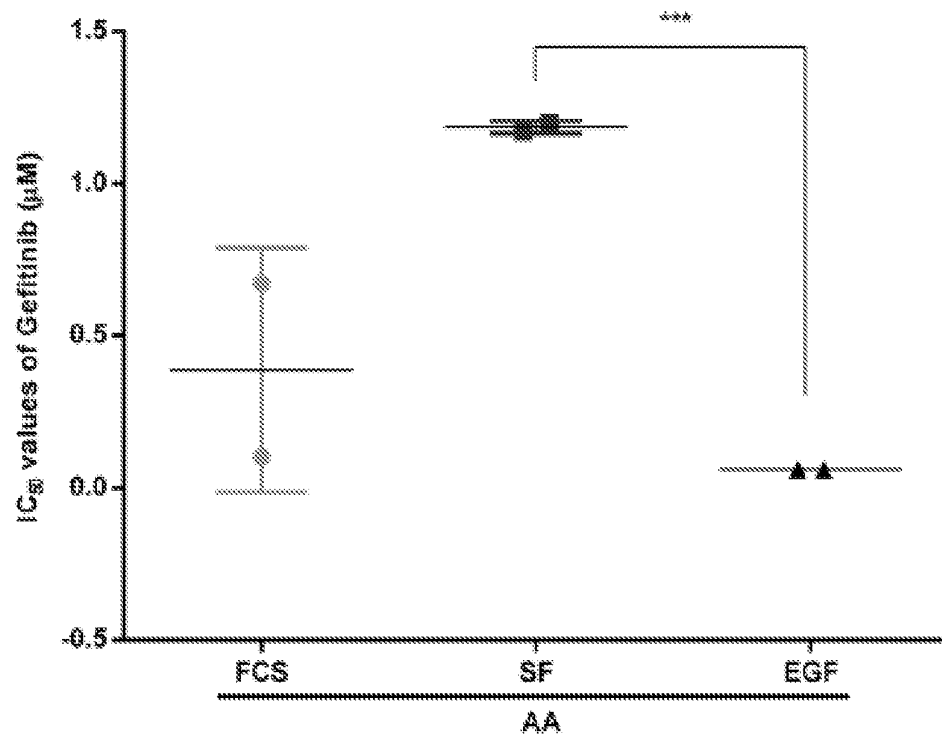
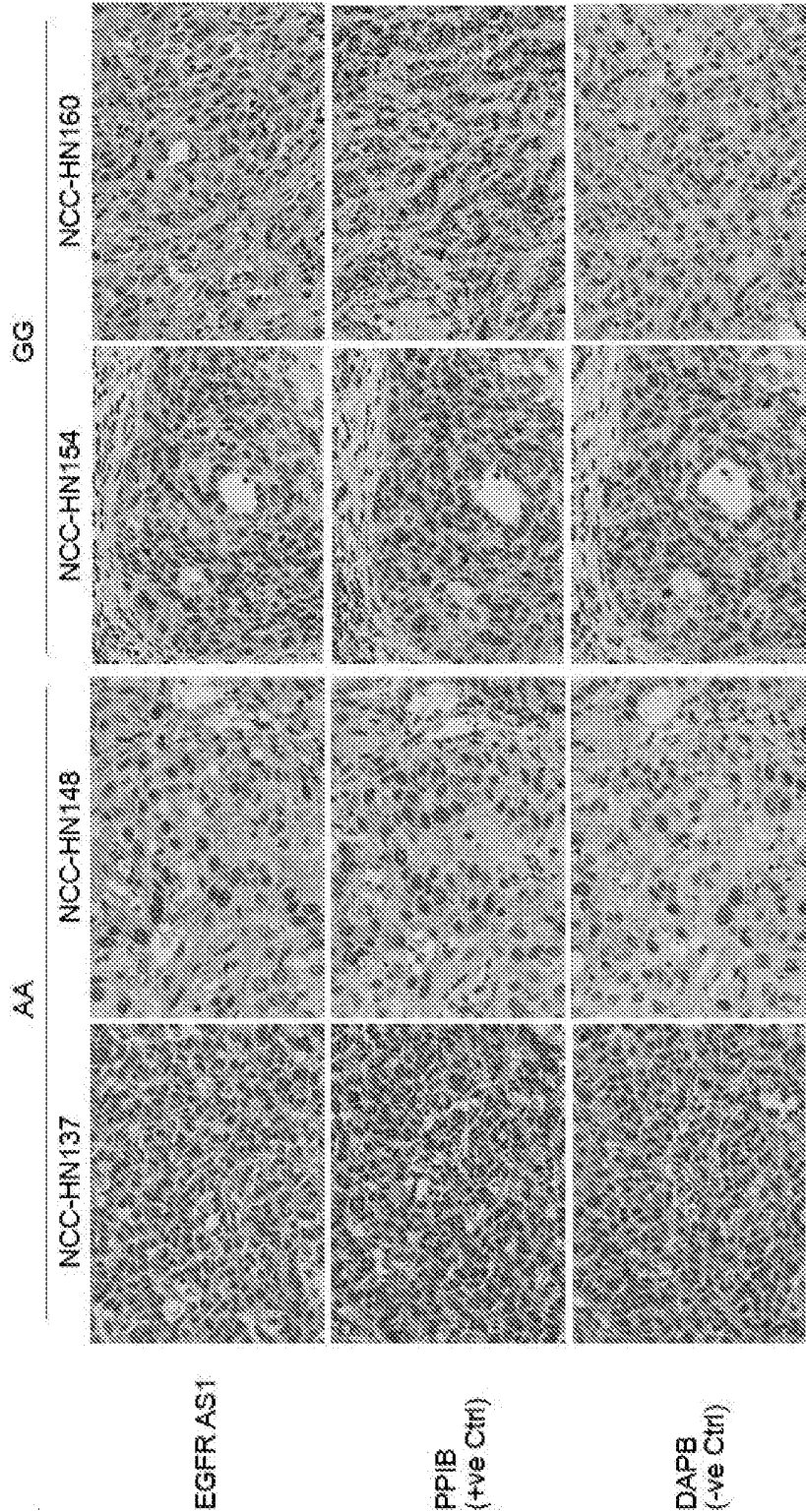


FIG. 4A



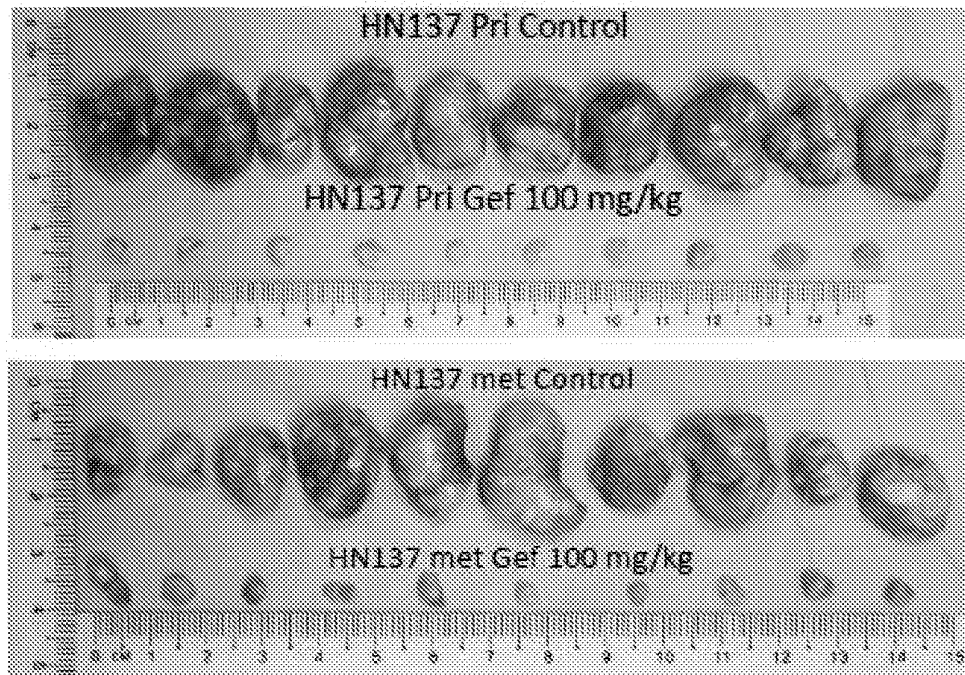
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FIG. 4B

| Tumor Type<br>Genotype                  | {1* Cell line} |           | {1* Cell line} |           | {1* Cell line} |          | {1* Cell line} |           | {1* Cell line} |           | {1* Cell line} |  | {1* Cell line} |  | {1* Cell line} |  |
|-----------------------------------------|----------------|-----------|----------------|-----------|----------------|----------|----------------|-----------|----------------|-----------|----------------|--|----------------|--|----------------|--|
|                                         | NCC-HN19       | NCC-HN137 | NCC-HN64       | NCC-HN148 | NCC-HN124      | NCC-HN43 | NCC-HN1        | NCC-HN154 | NCC-HN159      | NCC-HN160 |                |  |                |  |                |  |
| AA                                      | AA             | AA        | AA             | AA        | AG             | GG       | GG             | GG        | GG             | GG        |                |  |                |  |                |  |
| Cell line Gefitinib IC50 (uM)           | 0.07           | 0.2       | 0.257          | 0.583     | 11.355         | 9.5      | 11             | -         | -              | >20       |                |  |                |  |                |  |
| Relative AS1 Fold Change                | 0.37           | 1.22      | 0.17           | 1.00      | 15.43          | 1.50     | 1.00           | 1.89      | 7.43           | 1.00      |                |  |                |  |                |  |
| Relative Isoform D/A Fold Change        | 1.00           | 1.55      | 1.00           | 1.93      | 1.00           | 0.83     | 1.00           | 0.132     | 0.002          | 0.005     |                |  |                |  |                |  |
| RNA scope (AMPL score) on FFPE tissue   | -              | 0         | 0              | 0         | 0              | 1+       | -              | 1+        | 1+             | 1+        |                |  |                |  |                |  |
| EGFR AS1                                | -              | 0         | 0              | 0         | 0              | 1+       | -              | 1+        | 1+             | 1+        |                |  |                |  |                |  |
| Recurrent patient response to Gefitinib | -              | Y         | -              | -         | -              | -        | -              | -         | -              | -         |                |  |                |  |                |  |
| PDX response to Gefitinib               | -              | Y         | -              | -         | N              | -        | -              | -         | N              | -         |                |  |                |  |                |  |

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FIG. 4C



### In vivo tumor growth curve

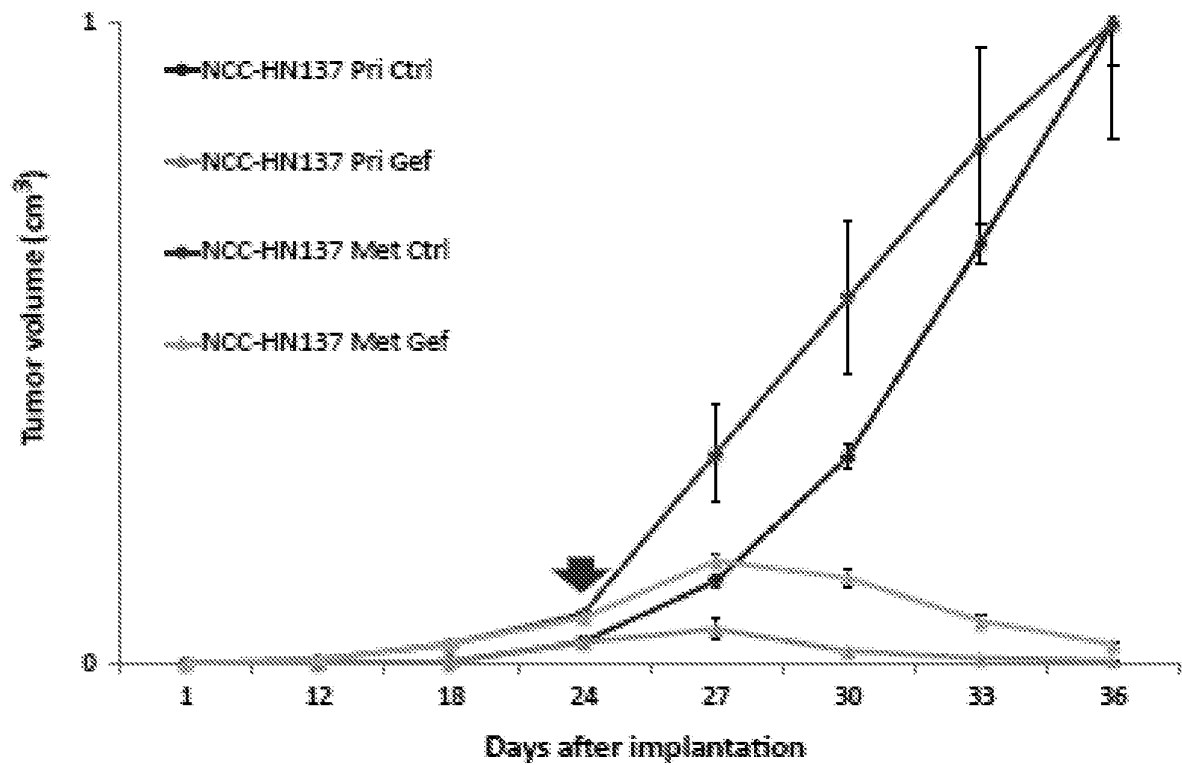
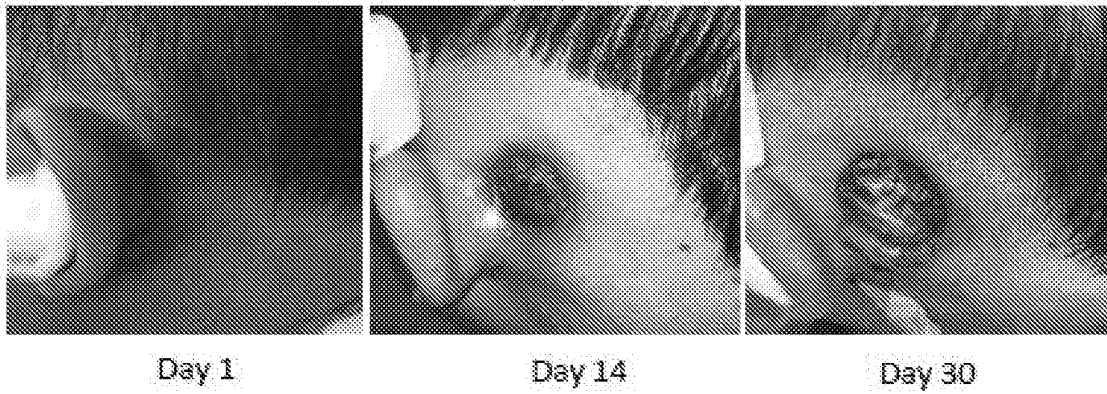


FIG. 4D



Day 1

Day 42

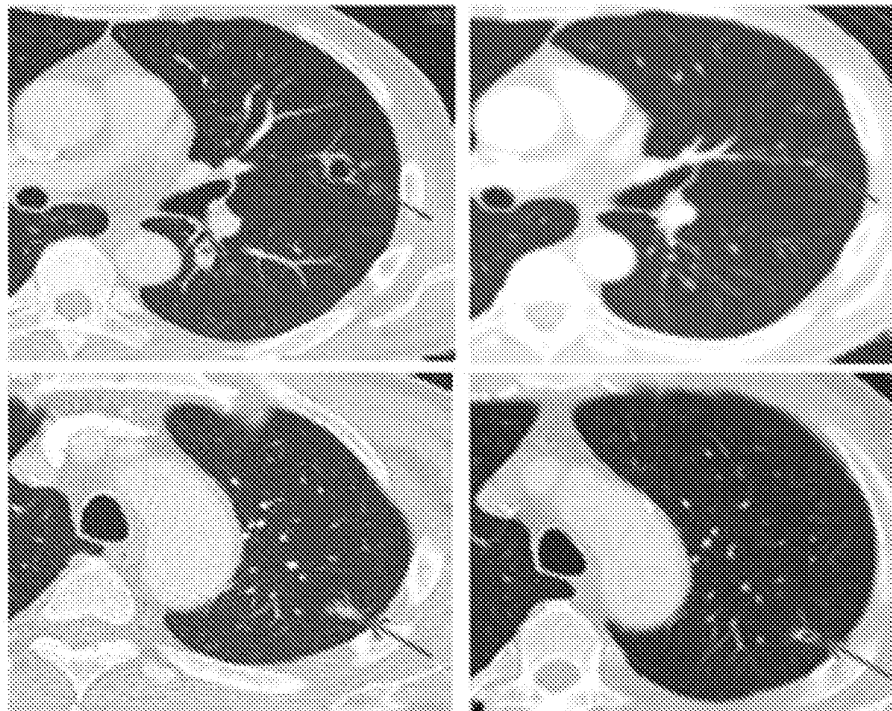


FIG. 5

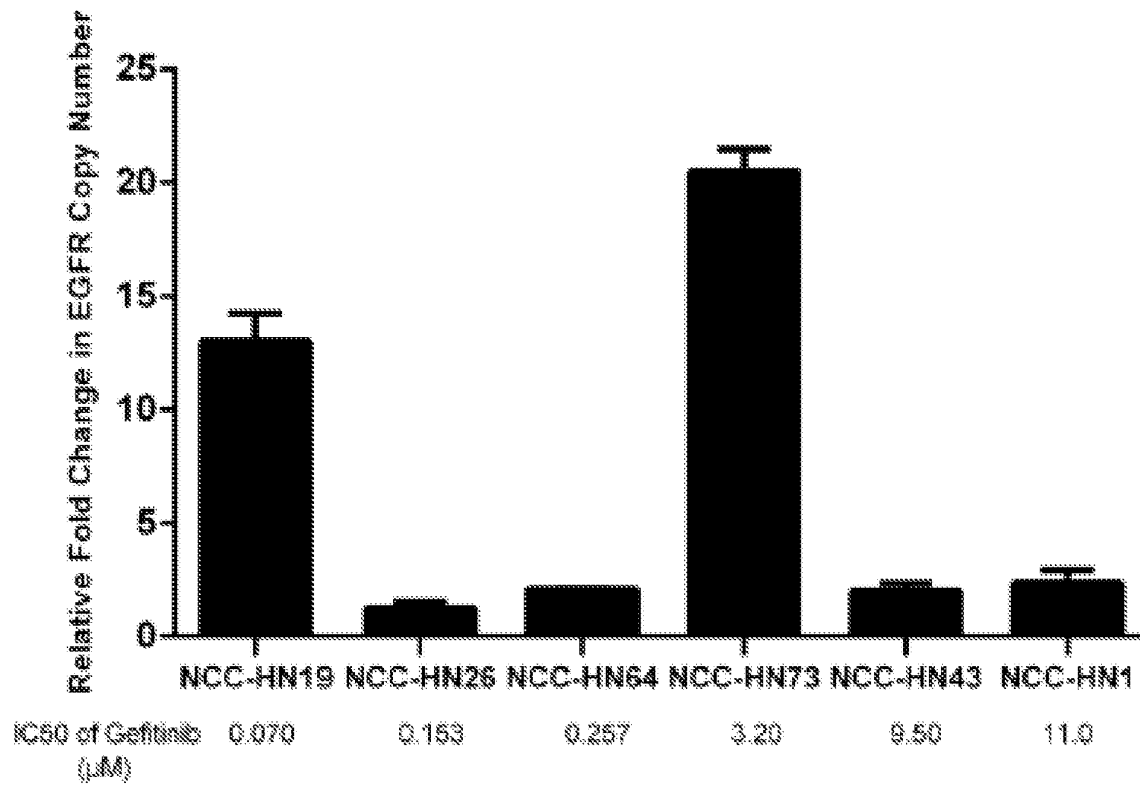
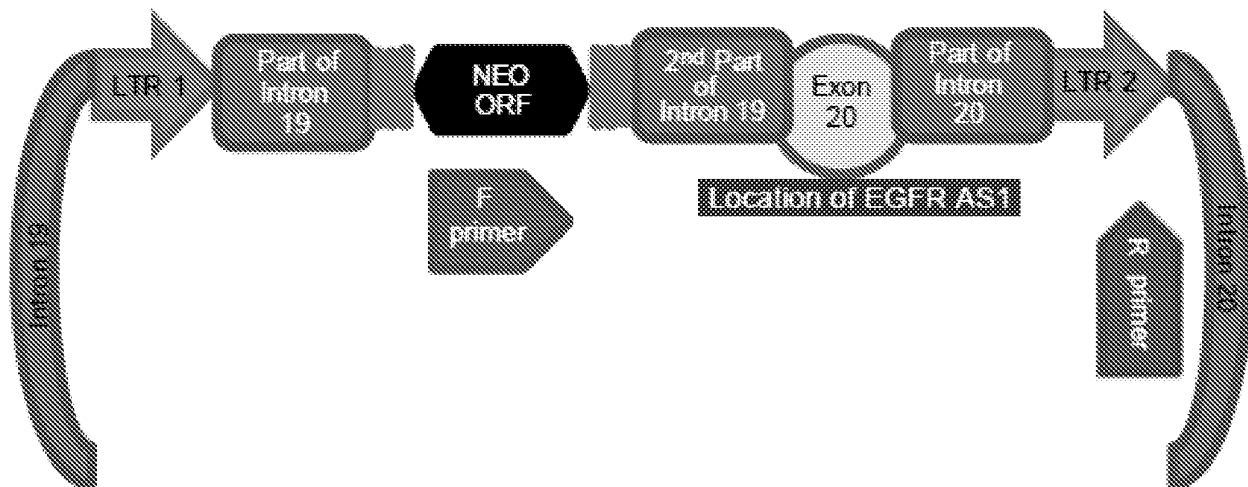


FIG. 6



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FIG. 7

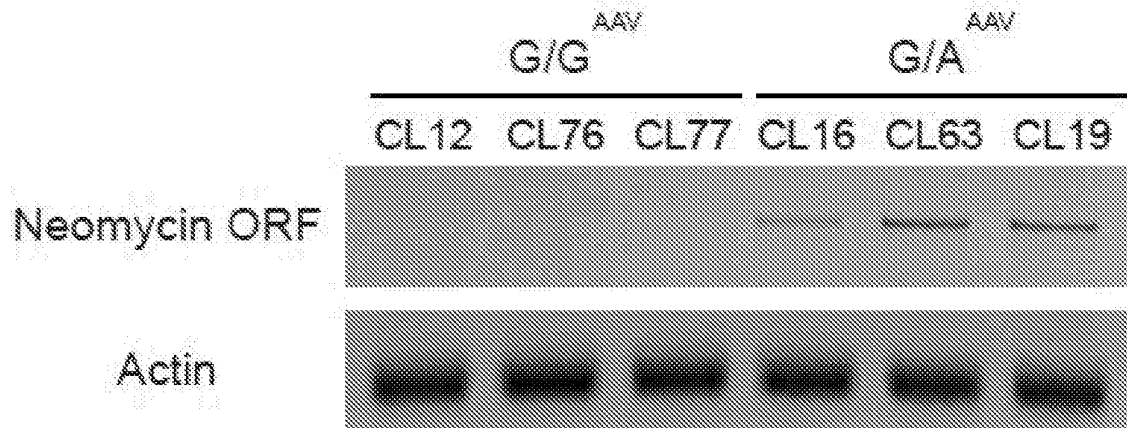
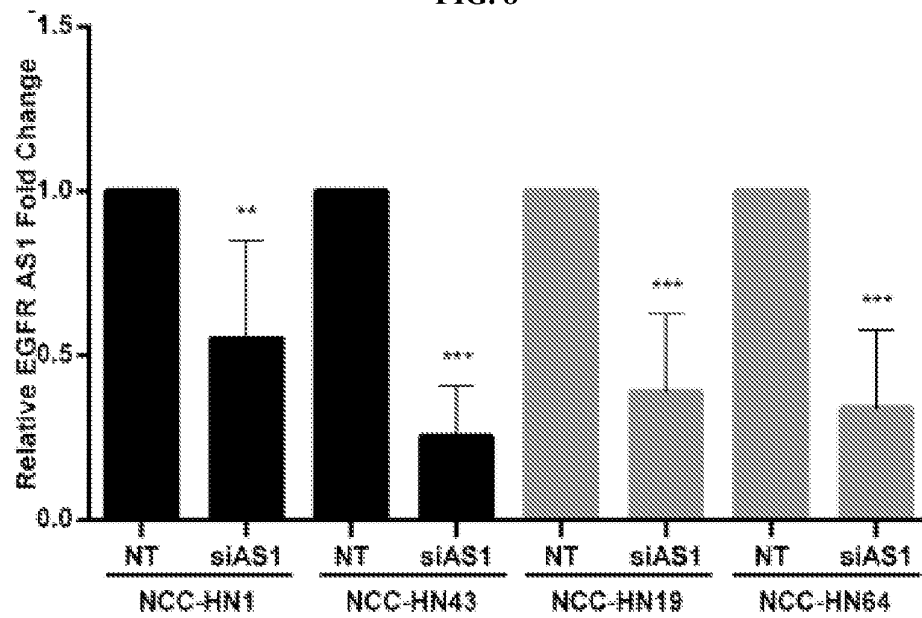


FIG. 8



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FIG. 9

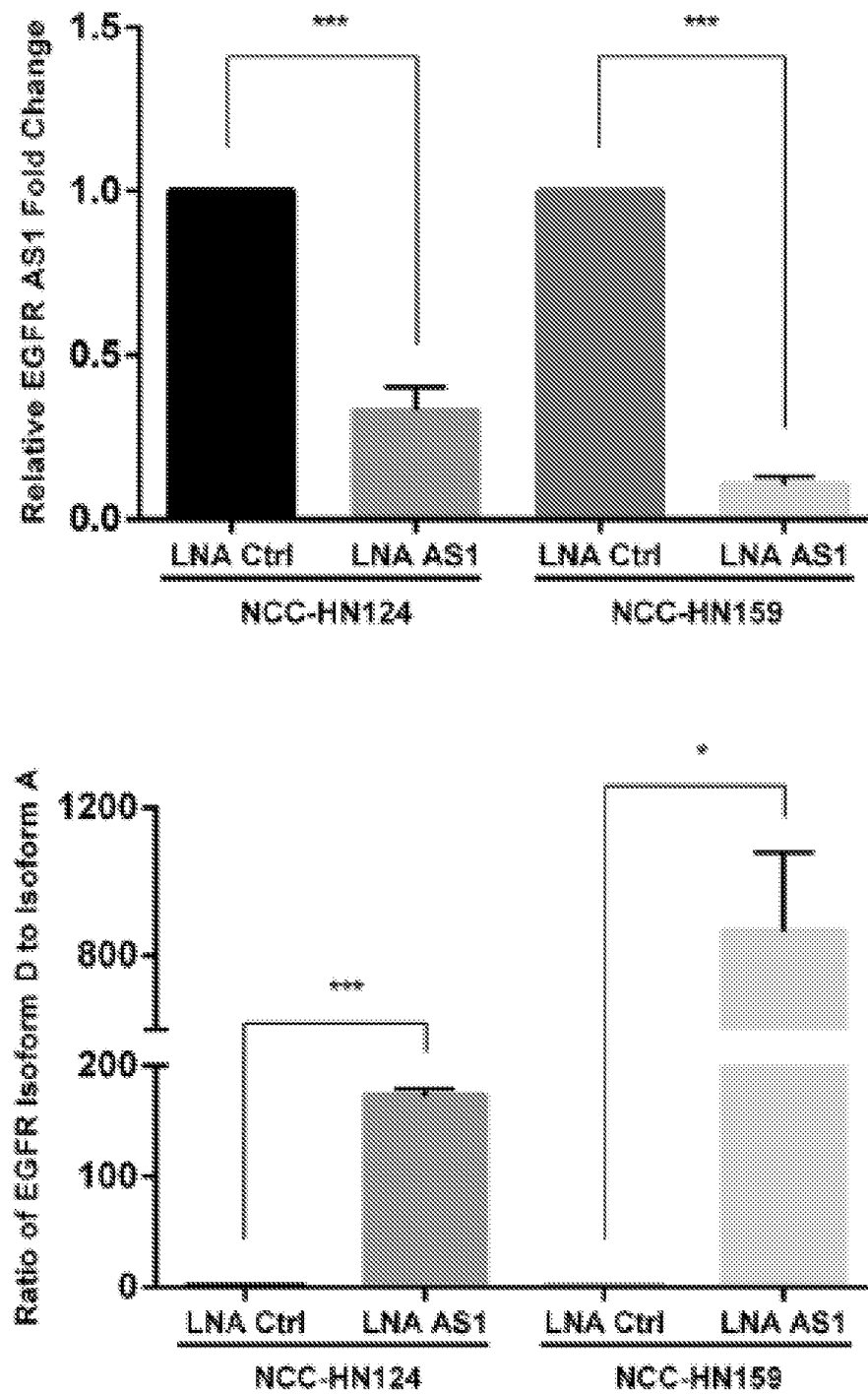
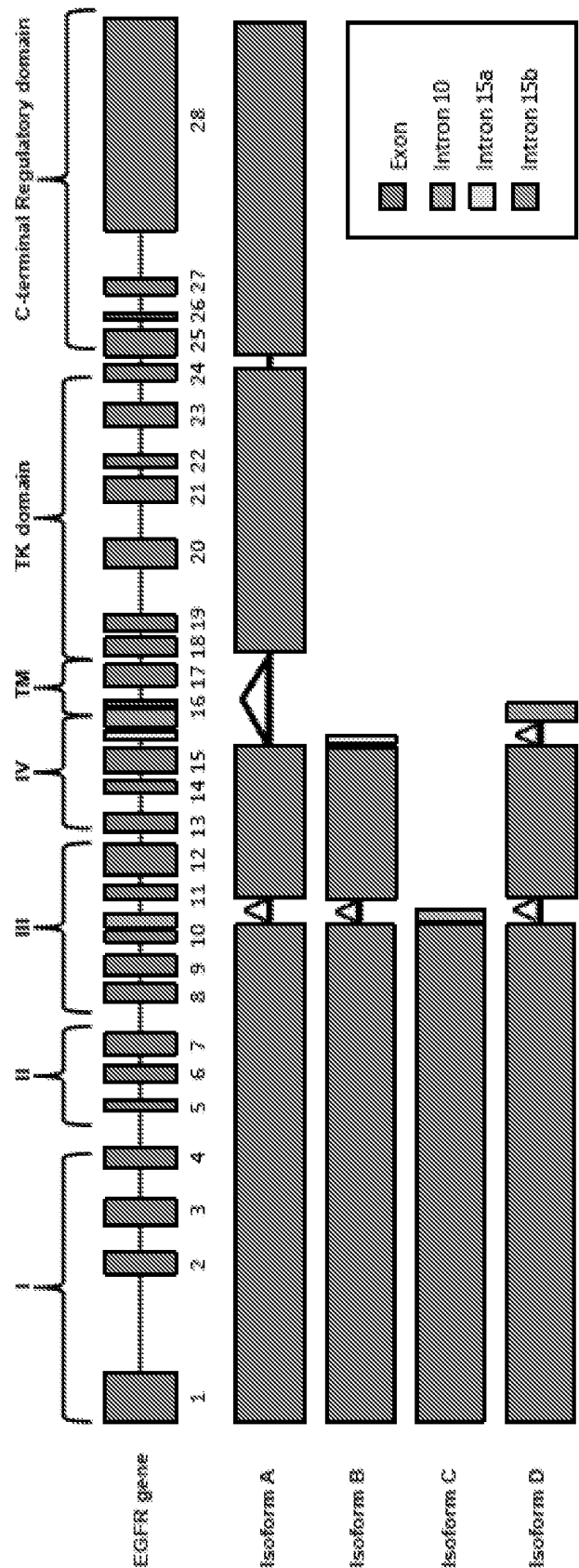


FIG. 10



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FIG. 11

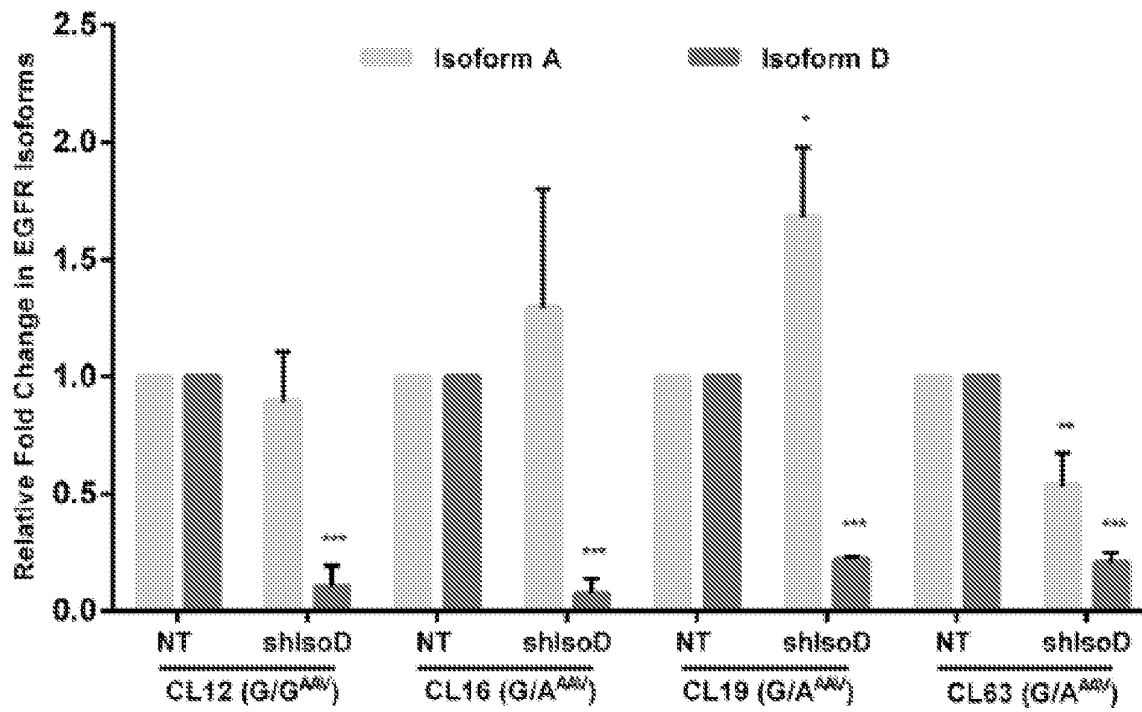


FIG. 12

| Cell Line | Sex/age (yr) | Primary site | Type       | Treatment                                | Outcome                                                                |
|-----------|--------------|--------------|------------|------------------------------------------|------------------------------------------------------------------------|
| NCC-HN1   | F/25         | Tongue       | Recurrence | Surgery, palliative chemotherapy         | Distant metastases, died of disease 5 mo after diagnosis of recurrence |
| NCC-HN43  | M/65         | Tongue       | Primary    | Surgery, adjuvant chemoradiation therapy | Distant metastases, died of disease 5 mo after initial diagnosis       |
| NCC-HN19  | M/48         | Tongue       | Primary    | Surgery, adjuvant chemoradiation therapy | Distant metastases, died of disease 7 mo after initial diagnosis       |
| NCC-HN64  | M/76         | Tongue       | Primary    | Surgery                                  | Distant metastases, Lost to Follow-up                                  |
| NCC-HN26  | M/60         | Hard palate  | Primary    | Surgery, adjuvant chemoradiation therapy | Alive 3 yr without disease                                             |
| NCC-HN73  | F/48         | Tongue       | Primary    | Surgery, adjuvant chemoradiation therapy | Alive 2 yr without disease                                             |

\* All cell lines were established from tumours that were histologically proven to be squamous cell carcinoma and obtained from surgical material derived from lymph node metastases; Abbreviations: F, female; M, male

FIG. 13

FIG. 15

| Primary cell line | EGFR Copy no. | EGFR mutation (Sanger sequencing) |            |            |                |           | Other mutations (Lung colon Panel) |         |
|-------------------|---------------|-----------------------------------|------------|------------|----------------|-----------|------------------------------------|---------|
|                   |               | Exon 18                           | Exon 19    |            | Exon 20        |           |                                    | Exon 21 |
|                   |               |                                   | ΔE746-A750 | ΔL747-S752 | 2361 G>A Q787Q | T790M C>T |                                    |         |
| NCC-HN1           | 7.5           | -                                 | -          | -          | GG             | -         | ALK, MET, PTEN, TP53               |         |
| NCC-HN43          | 6.1           | -                                 | -          | -          | GG             | -         | TP53                               |         |
| NCC-HN19          | 21.4          | -                                 | -          | -          | AA             | -         | -                                  |         |
| NCC-HN64          | 5.5           | -                                 | -          | -          | AA             | -         | ALK, TP53                          |         |
| NCC-HN26          | 5.7           | -                                 | -          | -          | AG             | -         | TP53                               |         |
| NCC-HN73          | 20.9          | -                                 | -          | -          | GG             | -         | PIK3CA TP53                        |         |