

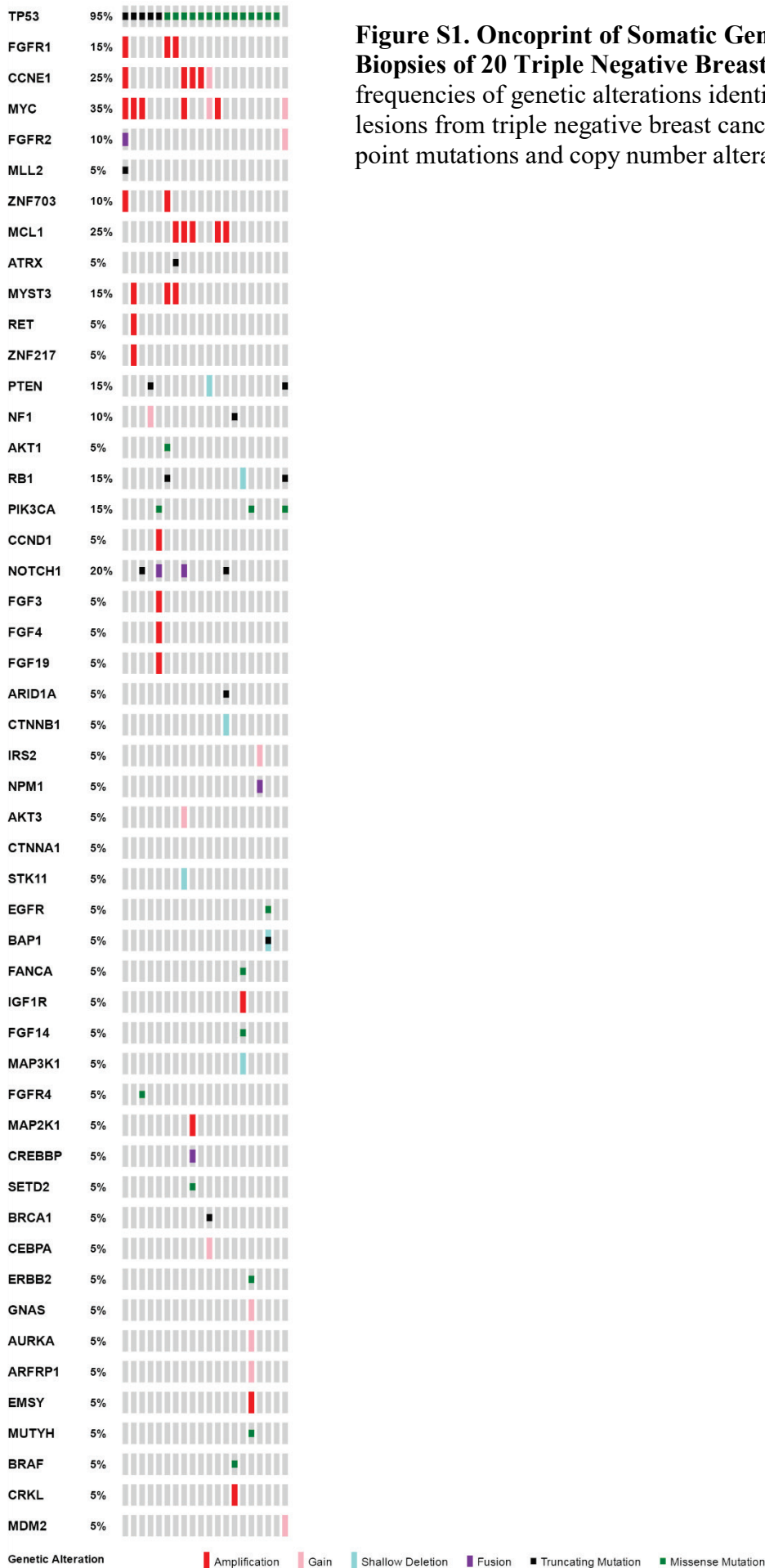
## **Supplemental Materials**

### **Individualized Molecular Analyses Guide Efforts (IMAGE): A Prospective Study of Molecular Profiling of Tissue and Blood in Metastatic Triple Negative Breast Cancer**

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**Figure S1. Oncoprint of Somatic Genomic Alterations in Metastatic Biopsies of 20 Triple Negative Breast Cancers.** Shown are the frequencies of genetic alterations identified by NGS in the 20 metastatic lesions from triple negative breast cancer patients. Alterations include point mutations and copy number alterations as shown in the key below.

**Table S1. Characteristics of genomic alterations from metastatic tumor biopsies**

| Patient | Gene   | Alteration    | Type       | Tumor Allele Frequency(%) |
|---------|--------|---------------|------------|---------------------------|
| 1       | TP53   | R342*         | TRUNCATION | 63                        |
| 1       | FGFR1  | AMP           | CNA        | NA                        |
| 1       | CCNE1  | AMP           | CNA        | NA                        |
| 1       | MYC    | AMP           | CNA        | NA                        |
| 1       | FGFR2  | FUSION        | FUSION     | NA                        |
| 1       | MLL2   | G2863fs*13    | TRUNCATION | 42                        |
| 1       | ZNF703 | AMP           | CNA        | NA                        |
| 2       | TP53   | Y163C         | MISSENSE   | 60                        |
| 2       | FGFR1  | AMP           | CNA        | NA                        |
| 2       | MCL1   | AMP           | CNA        | NA                        |
| 2       | ATRX   | R418*         | TRUNCATION | 17                        |
| 2       | MYST3  | AMP           | CNA        | NA                        |
| 3       | TP53   | M66fs*57      | TRUNCATION | 77                        |
| 3       | RET    | AMP           | CNA        | NA                        |
| 3       | MYC    | AMP           | CNA        | NA                        |
| 3       | ZNF217 | AMP           | CNA        | NA                        |
| 3       | MYST3  | AMP           | CNA        | NA                        |
| 5       | TP53   | R209fs*6      | TRUNCATION | 21                        |
| 5       | PTEN   | T319fs*6      | TRUNCATION | 7                         |
| 5       | PTEN   | Y188fs*2      | TRUNCATION | 15                        |
| 5       | NF1    | GAIN          | CNA        | NA                        |
| 6       | TP53   | R175H         | MISSENSE   | 43                        |
| 6       | FGFR1  | AMP           | CNA        | NA                        |
| 6       | AKT1   | E17K          | MISSENSE   | 42                        |
| 6       | RB1    | SPLICE        | SPLICE     | 36                        |
| 6       | ZNF703 | AMP           | CNA        | NA                        |
| 6       | MYST3  | AMP           | CNA        | NA                        |
| 7       | TP53   | R248Q         | MISSENSE   | 74                        |
| 7       | MCL1   | AMP           | CNA        | NA                        |
| 7       | MYC    | AMP           | CNA        | NA                        |
| 8       | TP53   | Y234C         | MISSENSE   | 18                        |
| 8       | CCNE1  | AMP           | CNA        | NA                        |
| 9       | TP53   | P219fs*2      | TRUNCATION | 50                        |
| 9       | PIK3CA | V344G         | MISSENSE   | 63                        |
| 9       | CCND1  | AMP           | CNA        | NA                        |
| 9       | NOTCH1 | NOTCH1-SEC16A | FUSION     | NA                        |
| 9       | FGF3   | AMP           | CNA        | NA                        |
| 9       | FGF4   | AMP           | CNA        | NA                        |
| 9       | FGF19  | AMP           | CNA        | NA                        |
| 10      | TP53   | R249W         | MISSENSE   | 4                         |
| 13      | TP53   | Y163C         | MISSENSE   | 72                        |
| 13      | MCL1   | AMP           | CNA        | NA                        |
| 13      | NOTCH1 | L2446fs*28    | TRUNCATION | 76                        |

|    |         |                |            |    |
|----|---------|----------------|------------|----|
| 13 | ARID1A  | L1176fs*17     | TRUNCATION | 66 |
| 13 | CTNNB1  | HOMDEL         | CNA        | NA |
| 14 | TP53    | T157_R158insRA | MISSENSE   | 11 |
| 14 | IRS2    | GAIN           | CNA        | NA |
| 14 | NPM1    | ZNF573-NPM1    | FUSION     | NA |
| 16 | TP53    | Y234DEL        | MISSENSE   | 64 |
| 16 | MCL1    | AMP            | CNA        | NA |
| 16 | CCNE1   | AMP            | CNA        | NA |
| 16 | AKT3    | GAIN           | CNA        | NA |
| 16 | MYC amp | AMP            | CNA        | NA |
| 16 | NOTCH1  | BARHL1-NOTCH1  | FUSION     | NA |
| 16 | CTNNA1  | SPLICE         | SPLICE     | 42 |
| 17 | TP53    | A276G          | MISSENSE   | 39 |
| 17 | EGFR    | R108K          | MISSENSE   | 38 |
| 17 | BAP1    | E498fs*38      | TRUNCATION | 19 |
| 17 | BAP1    | HOMDEL         | CNA        | NA |
| 19 | TP53    | P58fs*65       | TRUNCATION | 13 |
| 19 | TP53    | Y163C          | MISSENSE   | 12 |
| 19 | FANCA   | T1161M         | MISSENSE   | 12 |
| 19 | IGF1R   | AMP            | CNA        | NA |
| 19 | FGF14   | A236V          | MISSENSE   | 27 |
| 19 | MAP3K1  | HOMDEL         | CNA        | NA |
| 19 | RB1     | HOMDEL         | CNA        | NA |
| 20 | TP53    | E221fs*4       | TRUNCATION | 56 |
| 20 | FGFR4   | D425N          | MISSENSE   | 18 |
| 20 | MYC     | AMP            | CNA        | NA |
| 20 | NOTCH1  | ex 34          | TRUNCATION | NA |
| 21 | TP53    | N247K          | MISSENSE   | 46 |
| 21 | TP53    | R175H          | MISSENSE   | 4  |
| 21 | TP53    | T253N          | MISSENSE   | 43 |
| 21 | MAP2K1  | AMP            | CNA        | NA |
| 21 | CCNE1   | AMP            | CNA        | NA |
| 21 | MCL1    | AMP            | CNA        | NA |
| 21 | CREBBP  | TRAP1-CREBBP   | FUSION     | NA |
| 21 | SETD2   | T2354A         | MISSENSE   | 39 |
| 22 | TP53    | P151R          | MISSENSE   | 14 |
| 22 | PTEN    | HOMDEL         | CNA        | NA |
| 22 | CCNE1   | GAIN           | CNA        | NA |
| 22 | BRCA1   | E23fs*17       | TRUNCATION | 55 |
| 22 | MYC     | GAIN           | CNA        | NA |
| 22 | CEBPA   | GAIN           | CNA        | NA |
| 23 | TP53    | R273H          | MISSENSE   | 41 |
| 23 | ERBB2   | D769H          | MISSENSE   | 54 |
| 23 | ERBB2   | V777L          | MISSENSE   | 55 |
| 23 | PIK3CA  | M1043V         | MISSENSE   | 41 |
| 23 | GNAS    | GAIN           | CNA        | NA |

|    |             |                    |            |    |
|----|-------------|--------------------|------------|----|
| 23 | AURKA       | GAIN               | CNA        | NA |
| 23 | ARFRP1      | GAIN               | CNA        | NA |
| 23 | EMSY        | AMP                | CNA        | NA |
| 23 | MUTYH       | G382D              | MISSENSE   | 55 |
| 25 | TP53        | V157F              | MISSENSE   | 30 |
| 25 | NF1         | S436*              | TRUNCATION | 22 |
| 25 | BRAF        | G469R              | MISSENSE   | 12 |
| 25 | CRKL        | AMP                | CNA        | NA |
| 26 | PIK3CA      | M1043I             | MISSENSE   | 18 |
| 26 | PIK3CA      | N1044K             | MISSENSE   | 18 |
| 26 | PTEN        | C296fs*12          | TRUNCATION | 23 |
| 26 | FGFR2       | GAIN               | CNA        | NA |
| 26 | MDM2<br>amp | GAIN               | CNA        | NA |
| 26 | MYC amp     | GAIN               | CNA        | NA |
| 26 | RB1         | 1434_1498+49del114 | SPLICE     | 6  |

**CNA=copy number alteration, NA=not applicable**