**Oncotype DX® Breast Recurrence Score test** uses RT-PCR to determine the expression of a panel of 21 genes in tumor tissue. The Recurrence Score result is calculated from the gene expression results and ranges from 0-100.

The findings are applicable to women who have ER+ breast cancer with 1-3 positive nodes who will be treated with 5 years of hormonal therapy.

**Clinical Experience:** The 5-year risks of recurrence or mortality shown below are from the SWOG 8814 validation study that included 367 post-menopausal patients with N+, ER+ breast cancer who were randomized to tamoxifen (tam) alone or CAF chemotherapy followed by tam (CAF-T). The SWOG study endpoint was 5-year disease-free survival. Three studies in >4,000 contemporary patients with 1-3 positive nodes reported low rates (<4%) of 5-year distant recurrence and/or breast cancer specific mortality in those patients with Recurrence Score results <12 (PlanB) and <18 (Clalit and SEER) treated with hormonal therapy (tam or an aromatase inhibitor) alone.

**Prognosis and Chemotherapy Benefit: 5-Year Risk of Recurrence or Mortality after 5 Years of Tam, Based on the Recurrence Score Result**

### 1-3 Positive Nodes

#### 5-Year Risk of Recurrence or Mortality

**Tam Alone**

10% (95% CI: 6%-17%)

**Tam + Chemo**

11% (95% CI: 7%-18%)

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1 Albain et al. Lancet Oncol. 2010.  
5 Petkov et al. npj Breast Cancer. 2016.  
7 Shak et al. SABCS 2017.

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The Oncotype DX® test uses RT-PCR to determine the RNA expression of the genes below. These results may differ from estrogen receptor (ER), progesterone receptor (PR), or human epidermal growth factor receptor 2 (HER2) results reported using other methods or reported by other laboratories.¹

The ER, PR, and HER2 Scores are also included in the calculation of the Recurrence Score result.

**ER Score** = 9.3 Positive

The ER Score positive/negative cut-off of 6.5 units was validated from a study of 761 samples using the 1D5 antibody (immunohistochemistry) and 607 samples using the SP1 antibody (immunohistochemistry). The standard deviation for the ER Score is less than 0.5 units.²

**Clinical Experience:**
For ER+ breast cancer, the magnitude of tamoxifen benefit increases as the ER Score increases from 6.5 to ≥12.5.³

Please note: The Average Risk of Distant Recurrence reported on Page 1 based on the Recurrence Score result was determined in patients who received 5 years of tamoxifen treatment and takes into account the magnitude of tamoxifen benefit indicated by the ER Score.

**PR Score** = 7.1 Positive

The PR Score positive/negative cut-off of 5.5 units was validated from a study of 761 samples using the PR636 antibody (immunohistochemistry) and another study of 607 samples using the PR636 antibody (immunohistochemistry). The standard deviation for the PR Score is less than 0.5 units.²

**HER2 Score** = 8.0 Negative

The HER2 positive cut-off of ≥11.5 units, equivocal range from 10.7 to 11.4 units, and negative cut-off of <10.7 units were validated from concordance studies of 755 samples using the HercepTest™ assay (immunohistochemistry) and another study of 568 samples using the PathVysion® assay (FISH). The standard deviation for the HER2 score is less than 0.5 units.³

References:
1. ER Score based on quantitative ESR1 expression (estrogen receptor); PR Score based on quantitative PGR expression (progesterone receptor); HER2 Score based on quantitative ERBB2 expression.