iClust 1: N = 140 iClust 2: N = 72 STAT3|ILMN\_2410986 (non-ER binding) STAT3|ILMN\_2410986 (non-ER binding) [<=60] p = 0.091984No detectable trend: [<=60] p = 0.42967No detectable trend: 16 16 [>60] p = 0.11055 [>60] p = 0.059783|FC|<4 or adjPval>0.01 |FC|<4 or adjPval>0.01 [AII] p = 0.015625[AII] p = 0.306334 4 Raw Expression (4, 16) Raw Expression (4, 16) 12 12 10 10 ω 9 9 20 40 60 80 100 20 40 60 80 100 Age at diagnosis Age at diagnosis iClust 3: N = 294 iClust 4: N = 344 STAT3|ILMN\_2410986 (non-ER binding) STAT3|ILMN\_2410986 (non-ER binding) [<=60] p = 0.79429[<=60] p = 0.93331No detectable trend: No detectable trend: 16 16 [>60] p = 0.65821 |FC|<4 or adjPval>0.01 [>60] p = 0.68389|FC|<4 or adjPval>0.01 [AII] p = 0.49002[AII] p = 0.156534 4 Raw Expression (4, 16) Raw Expression (4, 16) 12 12 10 10 ω 9 9 20 40 60 80 100 20 40 60 80 100

Age at diagnosis

Age at diagnosis

iClust 5: N = 191 iClust 6: N = 86 STAT3|ILMN\_2410986 (non-ER binding) STAT3|ILMN\_2410986 (non-ER binding) [<=60] p = 0.5452No detectable trend: [<=60] p = 0.85457No detectable trend: 16 16 [>60] p = 0.80434[>60] p = 0.97429 |FC|<4 or adjPval>0.01 |FC|<4 or adjPval>0.01 [AII] p = 0.0020548[AII] p = 0.837034 4 Raw Expression (4, 16) Raw Expression (4, 16) 12 12 10 10 ω ω 9 9 20 40 60 80 100 20 40 60 80 100 Age at diagnosis Age at diagnosis iClust 7: N = 193 iClust 8: N = 300 STAT3|ILMN\_2410986 (non-ER binding) STAT3|ILMN\_2410986 (non-ER binding) [<=60] p = 0.24089No detectable trend: [<=60] p = 0.19824No detectable trend: 16 16 [>60] p = 0.46266|FC|<4 or adjPval>0.01 [>60] p = 0.20279 |FC|<4 or adjPval>0.01 [AII] p = 0.66301[AII] p = 0.819514 4 Raw Expression (4, 16) Raw Expression (4, 16) 12 12 10 10 ω 9 9 20 40 60 80 100 20 40 60 80 100 Age at diagnosis Age at diagnosis

iClust 9: N = 146 STAT3|ILMN\_2410986 (non-ER binding)

iClust 10: N = 226 STAT3|ILMN\_2410986 (non-ER binding)

