

**Supplementary Table I**

Window size	Extreme value distribution parameters			Area Significance threshold	
	$\mu$	$\sigma$	$k$	$p < 0.001$	$p < 0.01$
50	0.1228	0.0128	-0.0763	0.1915	0.1725
100	0.0818	0.0108	-0.123	0.1317	0.1195
150	0.0636	0.00874	-0.0825	0.1094	0.0971
200	0.0525	0.0080	-0.0626	0.095	0.08435
250	0.0459	0.00726	-0.1248	0.0794	0.0713
300	0.0402	0.00693	-0.101	0.07455	0.06575

**Supplementary Table I.** Significance thresholds and generalized extreme value distribution parameters for varying foreground window sizes. These values were determined by permutation testing with 1000 sets of randomized PBM ranks in the CRACR analysis. The thresholds for the area statistic indicated were used in determining significance of an expression condition analyzed with real PBM data.