

Operons: fine control of prokaryotic transcription

lacZ operon

- 3 genes
- entire operon on a single transcript

	-IPTG	+IPTG
$I^+O^+Z^+$	-	+
$I^-O^+Z^+$	+	+
$I^-O^+Z^+/I^+O^+Z^+$	-	+
$I^+O^cZ^+$	+	+
$I^+O^cZ^+/I^+O^+Z^+$	+	+
$I^{-d}O^+Z^+$	+	+
$I^{-d}O^+Z^+/I^+O^+Z^+$	+	+
$I^sO^+Z^+$	-	-
$I^sO^+Z^+/I^+O^+Z^+$	-	-
$I^{-d}O^+Z^-/I^+O^+Z^+$	+	+
$I^+O^cZ^-/I^+O^+Z^+$	-	+

Remember, cAMP only acts in the absence of glucose.