

Dosage Compensation in various species

related to Figure 2, also see Supporting Information of [1]

Species [Reference]	System	Dosage Compensation (Footnotes)
<i>Homo sapiens</i> [2,3]	XY	X inactivation, translation upregulation?
<i>Mus musculus</i> [2,3]	XY	X inactivation, translation upregulation?
<i>Monodelphis domestica</i> [2]	XY	complete
<i>Ornithorhynchus anatinus</i> [2]	XY	none
<i>Gallus gallus</i> [4]	ZW	none ¹
<i>Corvus corone</i> [5]	ZW	none
<i>Ficedula albicollis</i> [6]	ZW	none
<i>Poecilia parae</i> [7]	XY	complete
<i>Gasterosteus aculeatus</i> [8]	XY	none ²
<i>Cynoglossus semilaevis</i> [9]	ZW	incomplete, 1.3x chromosome-wide?
<i>Anolis carolinensis</i> [10]	XY	complete
<i>Basiliscus vittatus</i> [11]	XY	incomplete ³
<i>Varanus komodoensis</i> [12]	ZW	none
<i>Apalone spinifera</i> [13]	ZW	sometimes complete ⁴
<i>Sistrurus miliarius</i> [14]	ZW	none
<i>Artemia franciscana</i> [15]	ZW	complete
<i>Drosophila melanogaster</i> [16]	XY	complete ⁵
<i>Anopheles gambiae</i> [17]	XY	complete
<i>Themira minor</i> [16]	XY	complete ⁶
<i>Glossina morsitans</i> [16]	XY	complete
<i>Teleopsis dalmanni</i> [18]	XY	incomplete
<i>Xenos vesparum</i> [19]	XY	partial
<i>Tribolium castaneum</i> [20]	XY	complete ⁷
<i>Acyrtosiphon pisum</i> [21]	X0	complete
<i>Papilio xuthus/machaon</i> [22]	ZW	complete
<i>Bombyx mori</i> [22]	ZW	complete
<i>Plodia interpunctella</i> [22]	ZW	complete
<i>Manduca sexta</i> [23]	ZW	complete
<i>Schistosoma mansoni</i> [24]	ZW	complete / none ⁸

¹ Compensation is achieved by maintaining Y-linked copies of dosage-sensitive genes

² Compensation is achieved by maintaining Y-linked copies of dosage-sensitive genes

³ $n=10$ genes only analyzed, most exhibit compensation, but do not equalize to females levels

⁴ Environmentally and developmentally plastic, sometimes tissue-specific, various modes

⁵ Many studies, MSL complex-mediated Histone H4 K16 acetylation responsible for upregulation.

⁶ Mild upregulation in females and downregulation in males compared to the proto-X levels.

⁷ some studies indicate upregulation in XY males and from both XX in females

⁸ complete in certain developmental stages, no compensation in others.

<i>Caenorhabditis elegans</i> [25]	X0	complete ⁹
<i>Silene latifolia</i> [26,27]	XY	complete / incomplete ¹⁰
<i>Silene pseudotites</i> [28]	XY	none
<i>Silene otites</i> [28]	ZW	partial
<i>Rumex rothschildianus</i> [29]	XY	incomplete
<i>Coccinia grandis</i> [30]	XY	complete ¹¹
<i>Cannabis sativa</i> [31]	XY	complete ¹¹
<i>Pristionchus pacificus</i> [32]	X0	complete
<i>Oncorhynchus mykiss</i> [33]	XY	incomplete
<i>Lucilia cuprina</i> [34]	XY	complete
<i>Halyomorpha halys</i> [35]	XY	complete
<i>Homalodisca vitripennis</i> [35]	XY	complete
<i>Oncopeltus fasciatus</i> [35]	XY	complete
<i>Bos taurus</i> [36]	XY	complete
<i>Taeniopygia guttata</i> [37]	ZW	incomplete
<i>Charadrius alexandrinus</i> [38]	ZW	incomplete
<i>Sylvia communis</i> [39]	ZW	incomplete
<i>Heliconius melpomene</i> [40]	ZW	partial
<i>Cydia pomonella</i> [41]	ZW	dosage balance ¹²

⁹ downregulation of each hermaphrodite X chromosome by 50%

¹⁰ different conclusions in the two studies

¹¹ more extensive analyses needed

¹² ZZ dampening in males to match Z levels of females, but incomplete.

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