

# Audiogram of the domestic mouse (*Mus musculus*)

**Data from:** Koay, G., Harrington, I.A., Heffner, R.S., and Heffner, H.E. (2002). Audiograms of mice lacking Scn8a sodium channels and their heterozygous littermates. *Hearing Research*, 171, 111-118.

## Absolute thresholds (in dB re 2 $\mu\text{N/m}^2$ ) for four mice (designated A through D)

Frequency (in kHz)	Individual Thresholds (in dB)				Average
	C MedJ/+	D MedJ/+	A MedJ/MedJ	B MedJ/MedJ	
1	91.5	92			91.8
2	68	70	69.5	69	69.1
3	38	40.8	39	38.8	39.1
4	30	29	27	31	29.2
8	18.5	16	17	16.8	17.1
16	11	4	6.5	8	7.4
32	22	21.5	23.8	23	22.6
50	19.5	18	20	18.8	19.1
64	27.5	27	29	27.5	27.8
80	43.5	42.5	41.5	42.5	42.5
90	77	73	74	74.5	74.6

## Lowest and highest frequencies audible at sound pressure levels (SPL) ranging from 30 to 70 dB SPL

SPL (in dB)	Lowest audible frequency (in kHz)	Highest audible frequency (in kHz)
70	2	89
60	2.3	85.5
50	2.6	82
40	3	77
30	3.9	66

### Additional Parameters:

**Body weight** = 27 g

**Functional interaural distance** = 61  $\mu\text{s}$

(Time required for sound to travel around the head from one auditory meatus to the other.)

**Comments:** Threshold values taken from original data. These results are in general agreement with the audiogram of Markl & Ehret (1973), with the exception of the 1 kHz threshold—we believe that their 1 kHz signal may have contained overtones to which the animals were responding.

See also the wild house mouse audiogram: Heffner, H., & Masterton, B. (1980). Hearing in glires: domestic rabbit, cotton rat, feral house mouse, and kangaroo rat. *Journal of the Acoustical Society of America*, 68, 1584-1599.

Markl, V.H., and Ehret, G. (1973) Die Horschwelle der Maus (*Mus musculus*). *Zeitschrift für Tierpsychologie*, 33, 274-286.