

Gessa, G. L., Vargiu, L. & Crabai, F. (1966). *Life Sci.*, **5**, 501-507.Horwitz, D., Lovenberg, W., Engelman, K. & Sjoerdsma, A. (1964). *J. Am. med. Ass.*, **188**, 1108-1110.Tedeschi, D. H. & Fellows, E. J. (1964). *Science, N.Y.*, **144**, 1225-1226.**Differences in the response to insulin of pathogen-free mice and mice bred conventionally**

SIR,—In 1961 comparisons were made of the responses to insulin of mice from a number of strains at room temperature (21°). Since 1961 these strains have been transferred into pathogen-free buildings by caesarian derivation and one or two of the strains were re-tested. Alterations in response cannot be attributed solely to the lack of pathogen burden, since in the five intervening years a number of generations have been produced; and also considerable genetic drift may have ensued particularly in the random bred LAC grey mice.

TABLE 1. THE REACTION TO INSULIN OF STARVED CONVENTIONALLY BRED MICE COMPARED WITH THAT OF STARVED PATHOGEN-FREE MICE

Strain	No. of tests	Approx. ED50 milliunits/kg mouse	Mean slopes of regression
Conventionally bred mice at 21° (1961)			
LAC grey	2	1,845	1.28
DBA/1	2	875	2.84
Pathogen-free mice at 21° (1966)			
LAC grey	2	12,050	1.87
DBA/1fCFWLac ..	2	3,250	4.10
Pathogen-free mice at 33°			
LAC grey	2	2,450	4.54
DBA/1fCFWLac ..	2	1,700	3.31

Table 1 gives the relevant comparisons of the ED50 values and of the mean slopes of the regression lines. Both strains of mice are now much less sensitive to insulin at 21° (six and three times less sensitive). At 33° the mice are still not as sensitive as the original mice at 21°. With both strains of mice the precision of the reaction is increased but the difference is less than significant ($P = 0.7$ $P = 0.2$). These results are in agreement with the statement made by Davey (1962) that pathogen-free mice are less sensitive than conventionally bred mice to toxic substances.

M.R.C. Laboratory Animals Centre,
Carshalton, Surrey.

ANNIE M. BROWN

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