

Silicon intake to vertebral columns of mice after dietary supply.

[Biol Trace Elem Res.](#) 2006 Dec;113(3):297-316.

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Abstract

Vertebral columns were dissected and analyzed after birth with oral administration of silicon for 4 wk and for 8 wk. The silicon level was lower (20 microg/g) at the beginning. It remains unchanged after 4 wk and then increases twice as much as that for those mice bred for 8 wk than those bred for 4 wk. This increase depends remarkably on the mass ratio of Si/Ca (M/M). The ratio increases to three times higher than that of the control at the beginning of the experiments (5 wk after birth). Although the S and P contents appeared to be lower, these increased when Si was administered in combination with phosphopeptide. Other elements, such as Ca, Mg, Fe, and Zn, appeared to be unchanged as the weeks proceeded. These findings seem to support a proposal that silicon is necessary for the growth of backbones in mice.