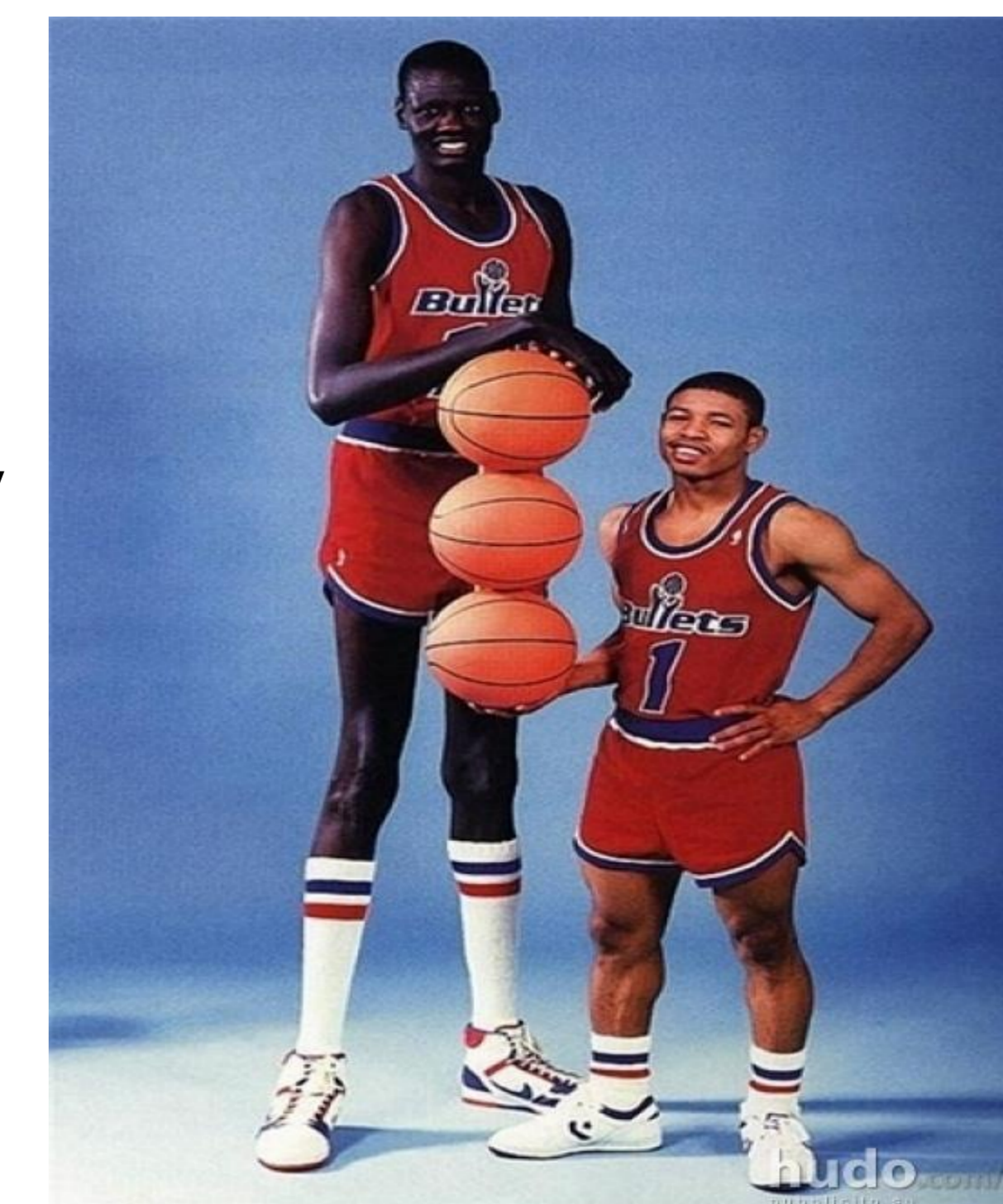




Analysis of growth hormone receptor gene expression in tall stature children.

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The authors have nothing to disclose.

Background

Because intact growth hormone (GH) and insulin-like growth factor I (IGF-I) axis plays a major role on final height, much attention might to be devoted to find abnormalities related to growth factors and their signalling pathways.

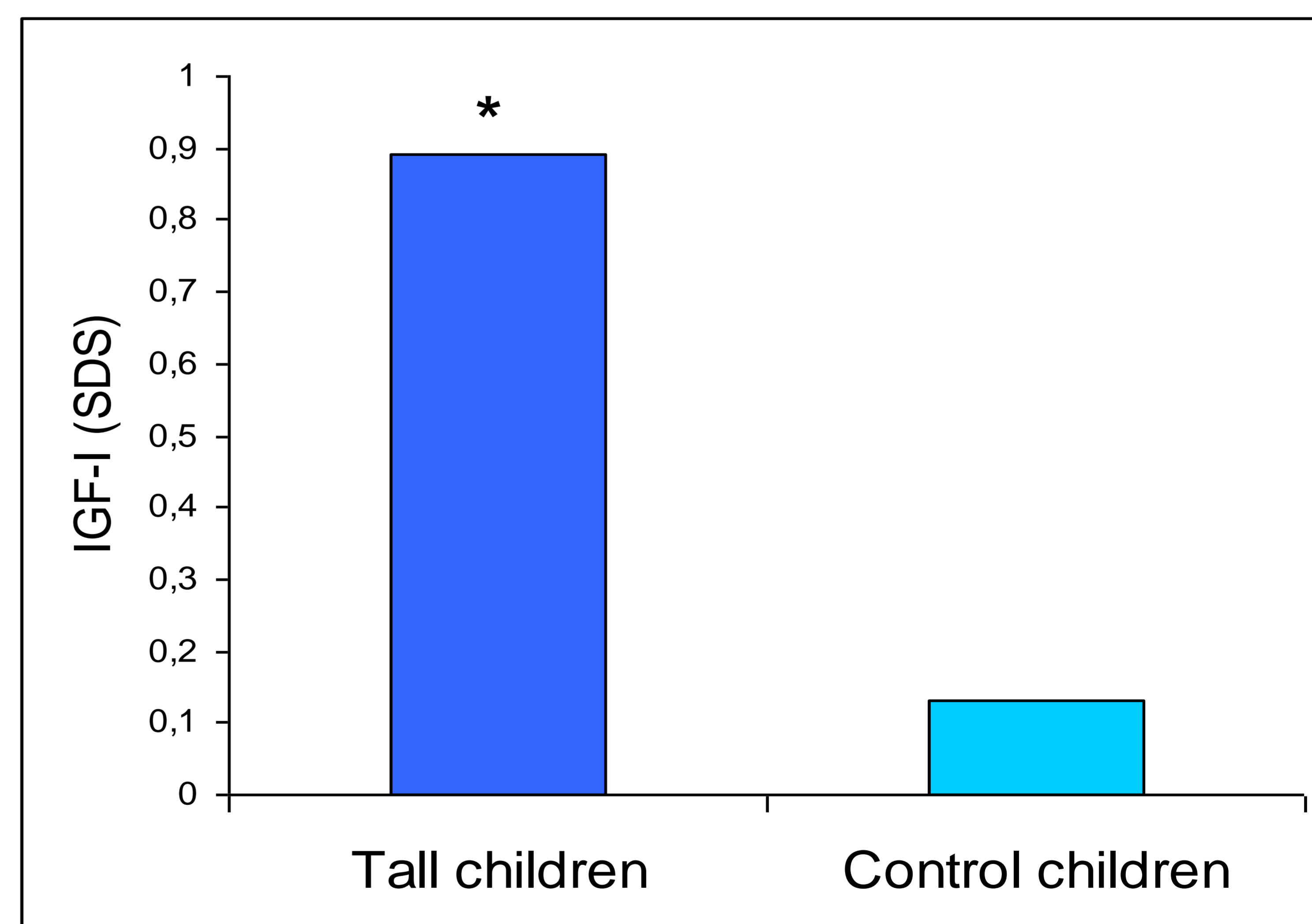
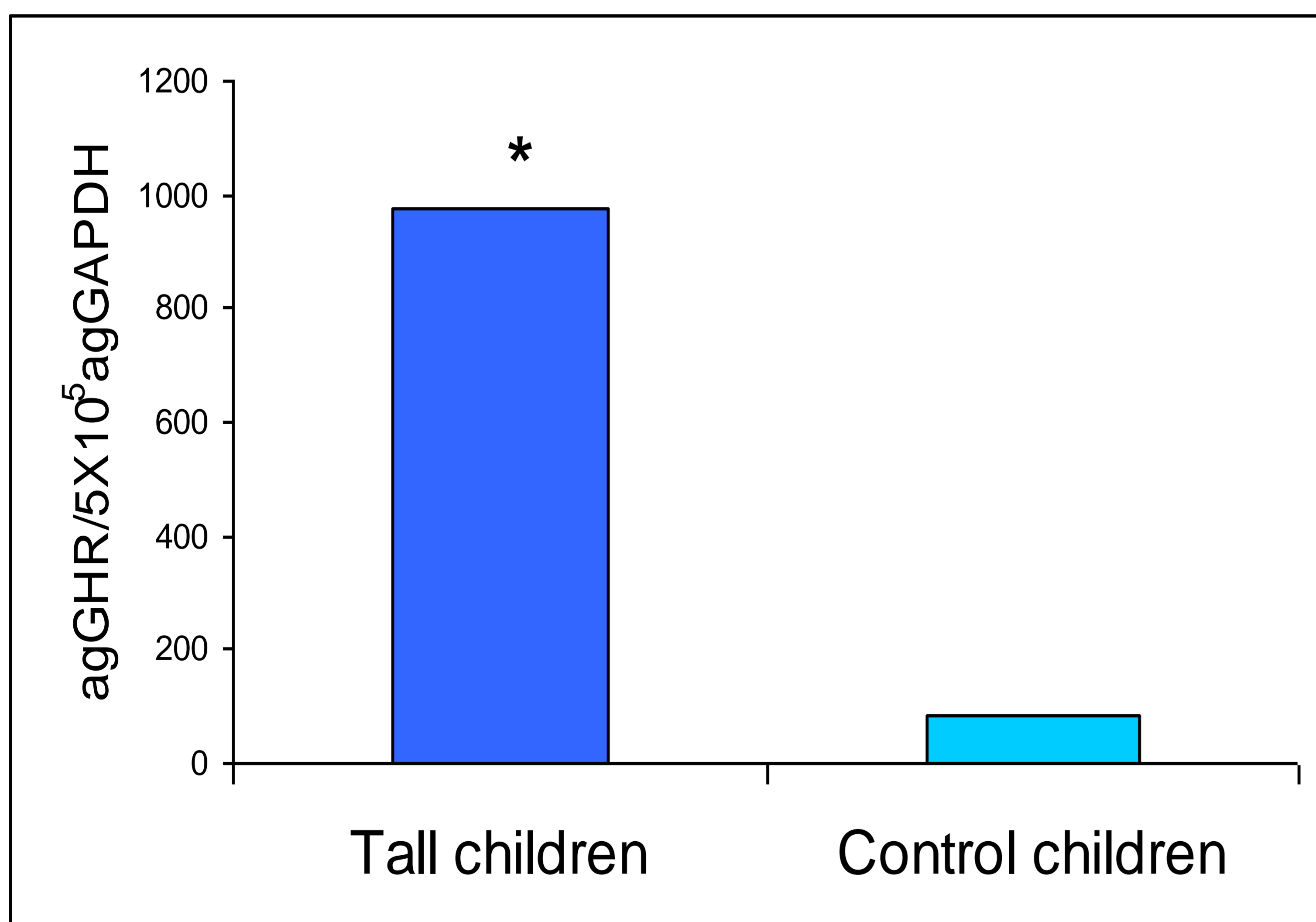
At the tissue level, the action of GH result from the interaction of GH with a specific cell surface GH receptor (GHR). Thus the ability of GH to exert biological effects is intimately linked to the number and function of GHRs in these tissue.

Patients and methods

We analyzed the GHR gene expression in peripheral blood mononuclear cells of 31 tall children (age: $11,59 \pm 0,53$ yrs; height: $2,69 \pm 0,13$ SDS), and 46 age and sex-matched controls (age: $10,57 \pm 0,42$ yrs; height: $-0,24 \pm 0,12$ SDS) by Real-Time PCR. Normalization and validation of the data will be carried out using GAPDH as housekeeping control gene and quantitative Real-time PCR data are expressed as $agGHR/5X10^5 agGAPDH$. We also measured circulating insulin-like growth factor I (IGF-I) by Immulite.

Results

We found a significantly ($p=0.029$) higher GHR gene expression value in tall children (976.85 ± 653.4) compared to control children (86.81 ± 19.48); also IGF-I value was significantly ($p=0.035$) higher in tall children (0.87 ± 0.11 SDS) than in control children (0.06 ± 0.19).



Conclusions

An up regulation of GHR gene expression could be responsible of the sensibility to GH in tall stature children.