

Important Biomarkers in Autism

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Systems of the Body in Which Autism is Manifest

- Ubiquitous
- Gastrointestinal
- Immunologic
- Neurologic
- Toxicologic

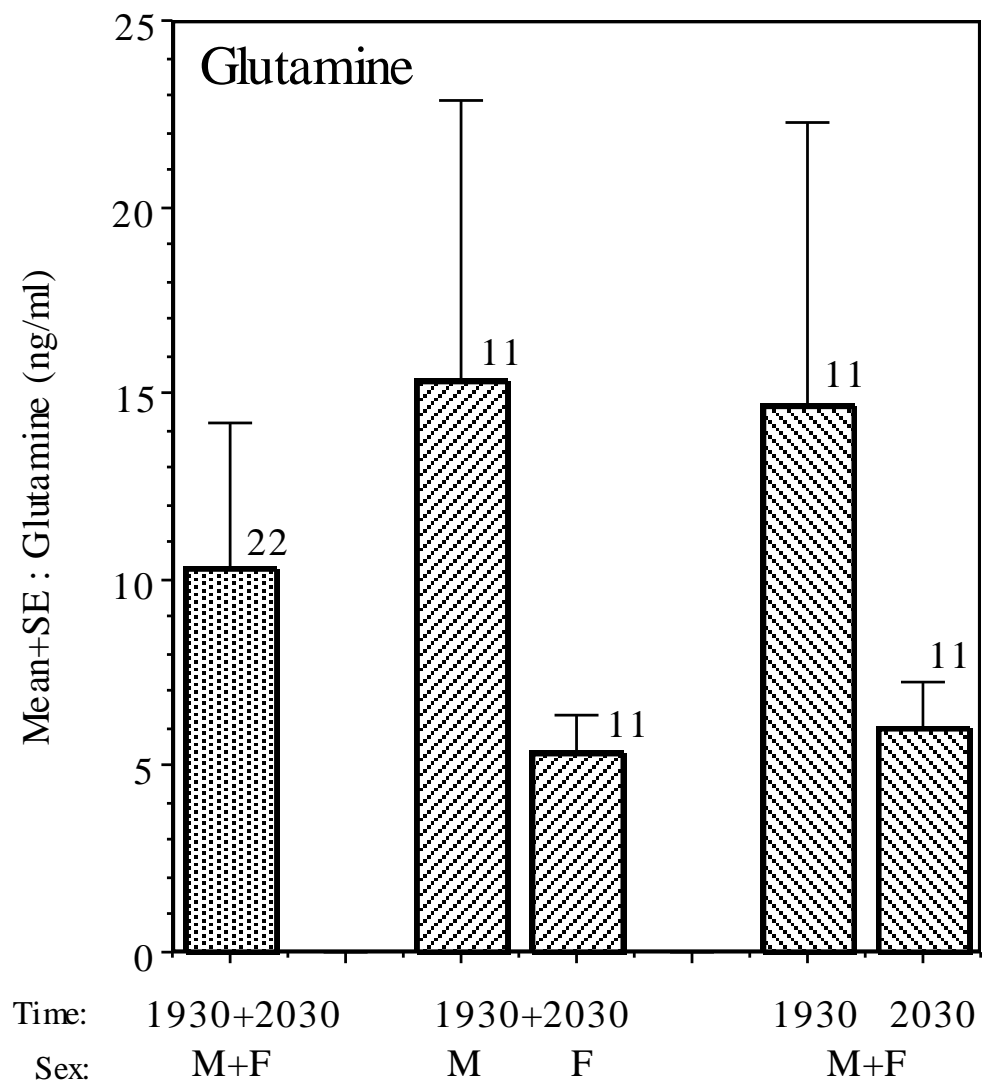
Unifying Concepts

- Increased vulnerability to oxidative stress
- Immune-glutamatergic dysfunction
- Pineal gland Malfunction

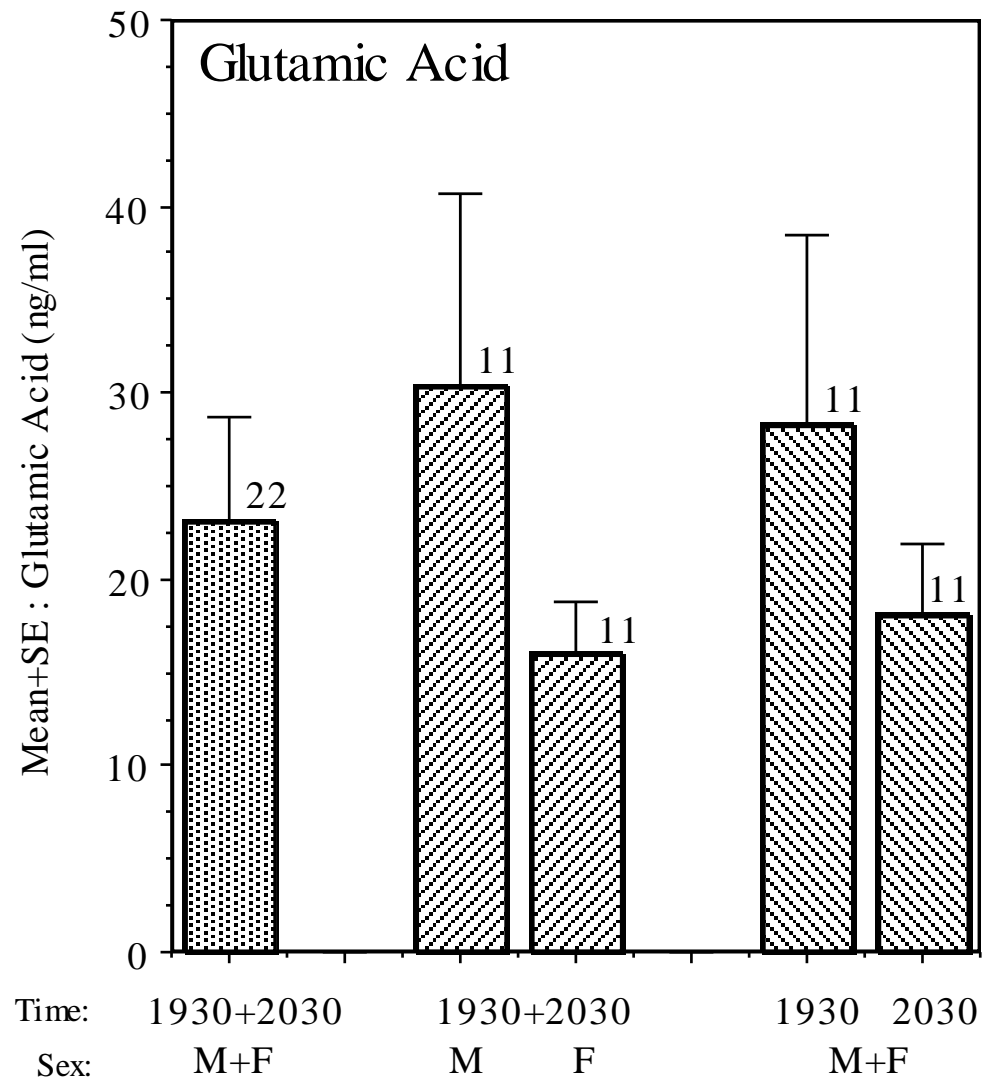
Potential Biomarkers in Saliva for Measurement of Autism

Using Saliva Collected at 2 Times
(7:30 & 8:30 PM)
from 12 Neurotypical Adults
(6 males & 6 females)

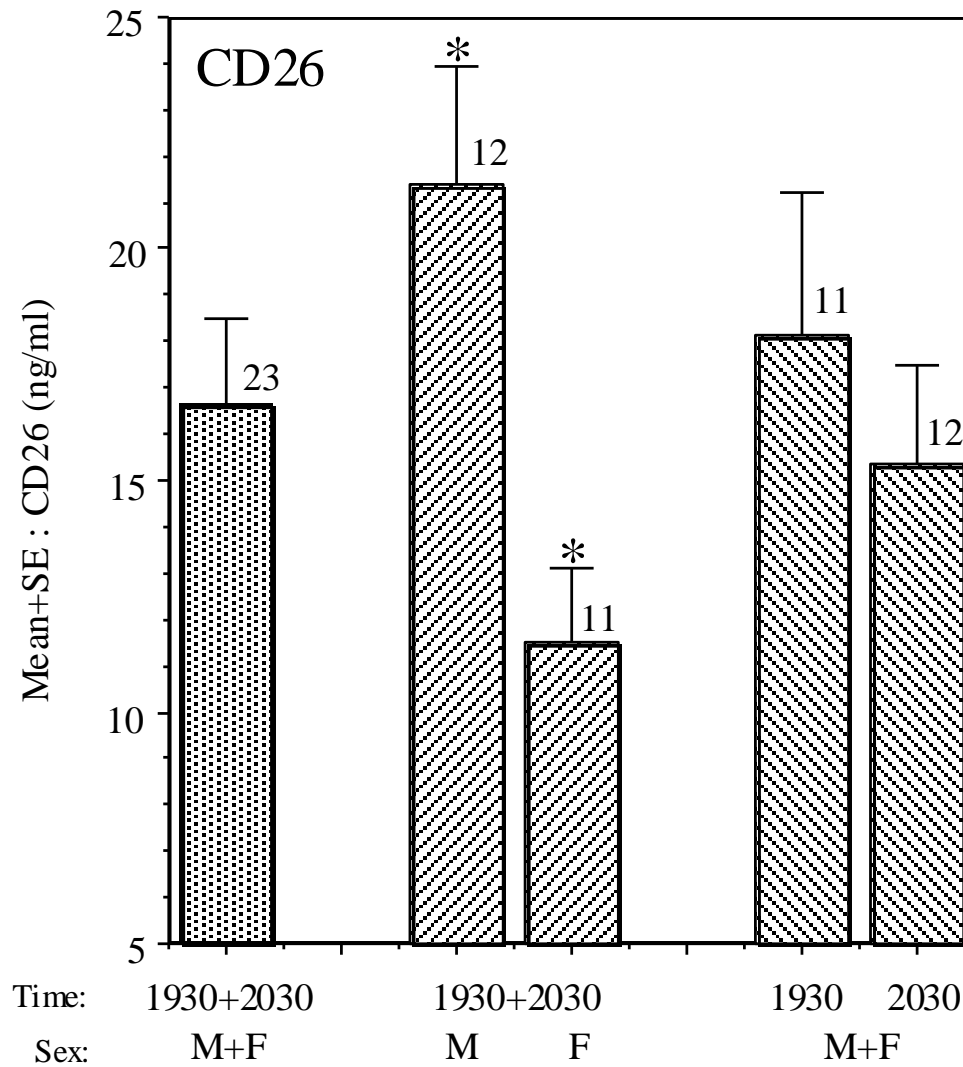
Marker for Ubiquitous System



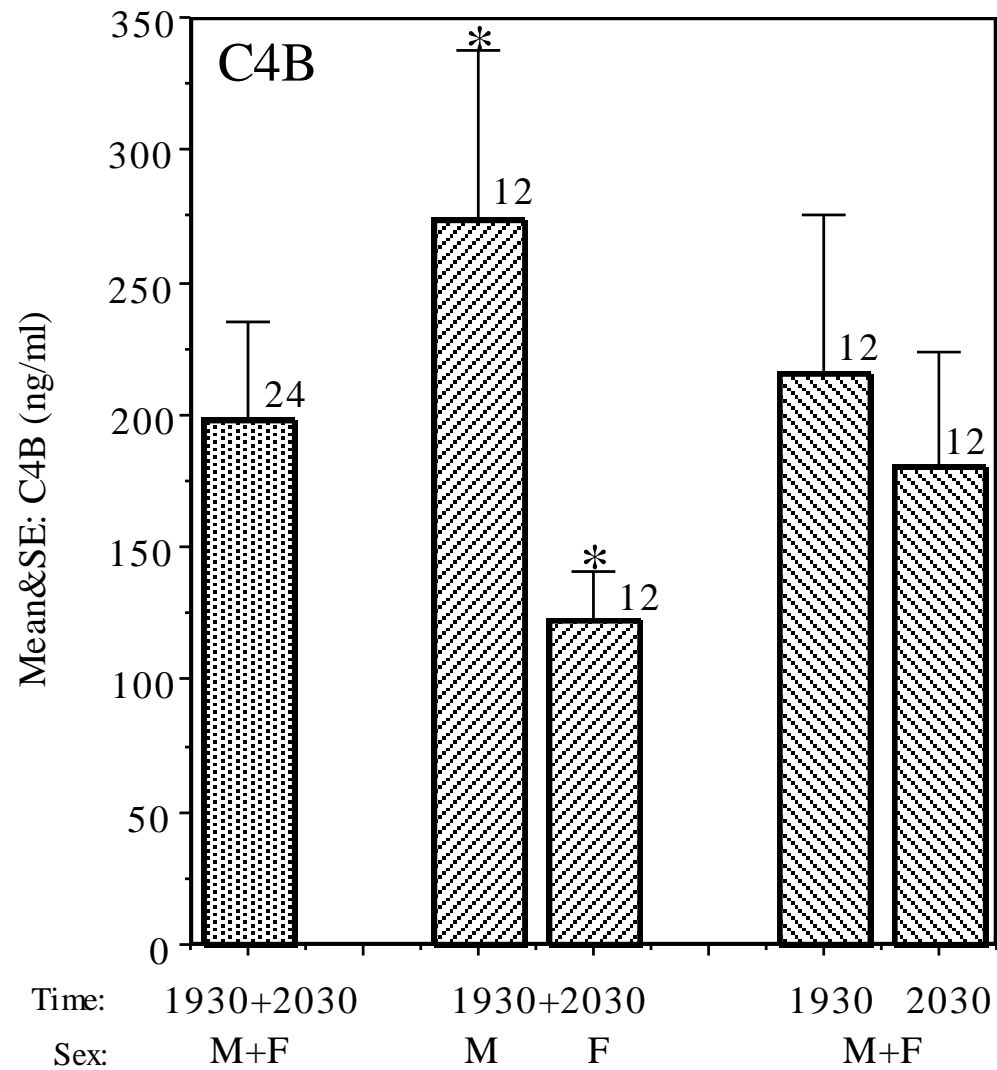
Marker for Ubiquitous System



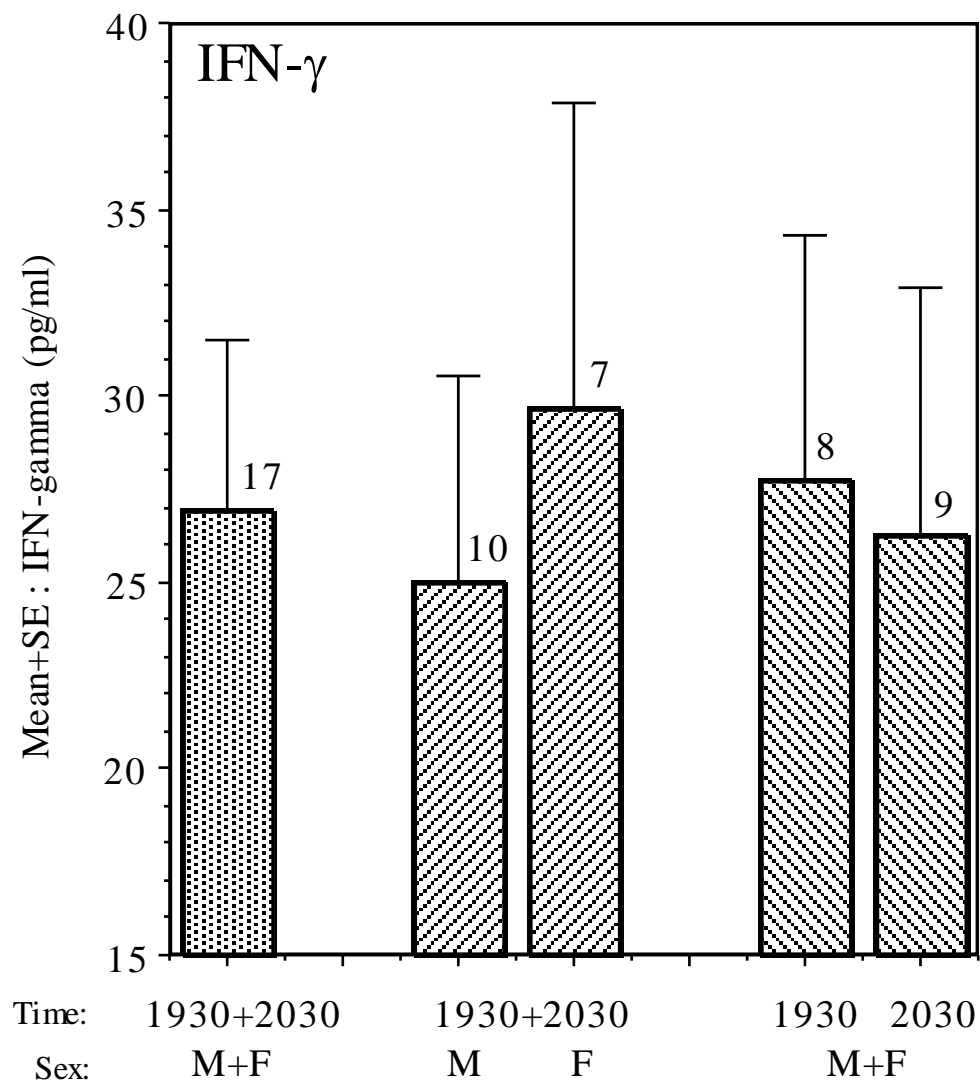
Marker for Gastrointestinal System



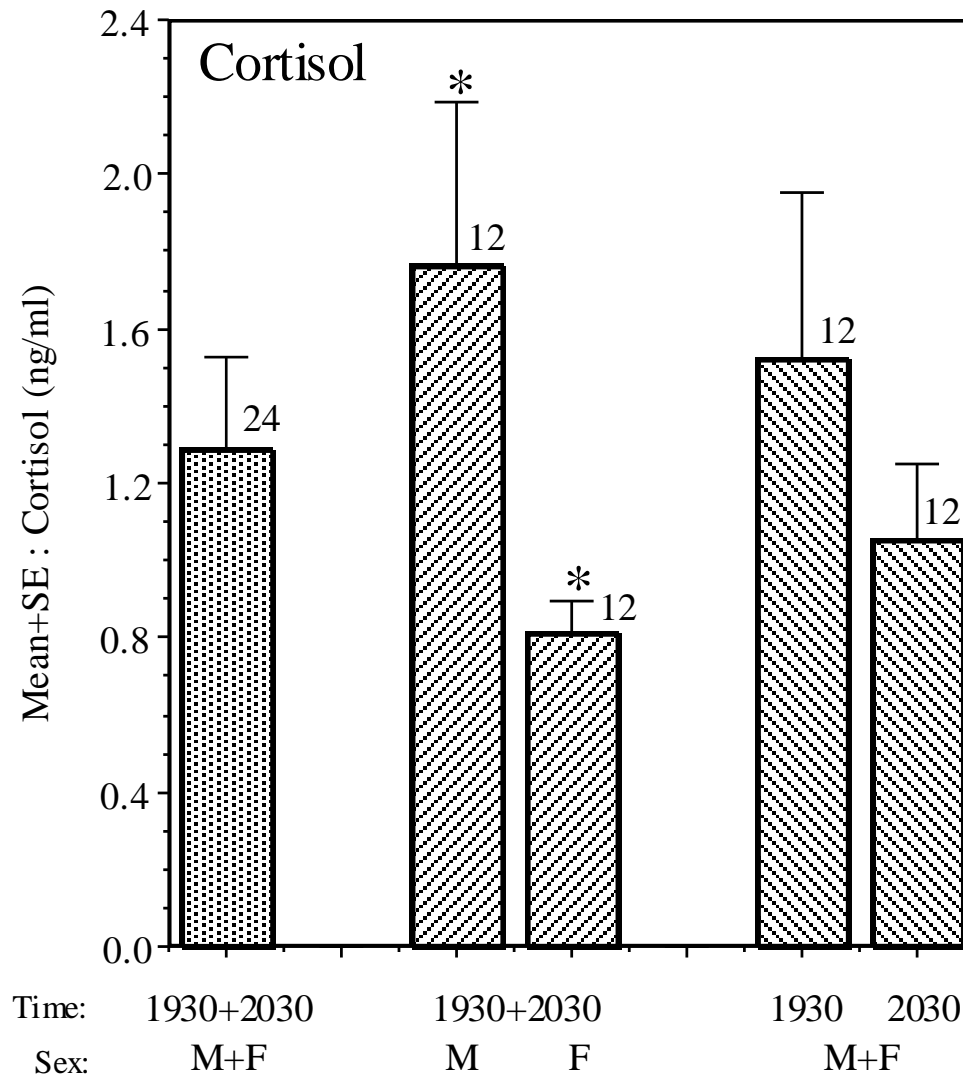
Marker for Immunologic System



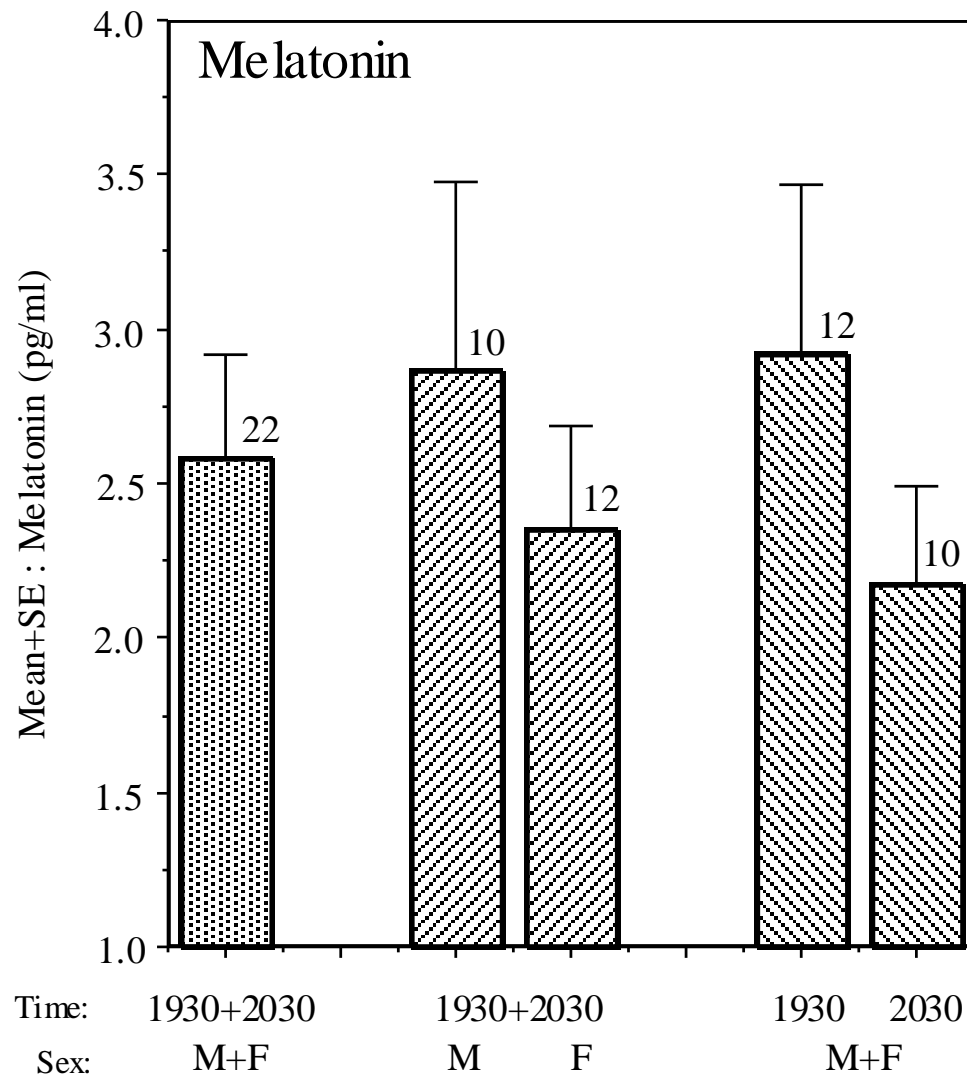
Marker for Immunologic System



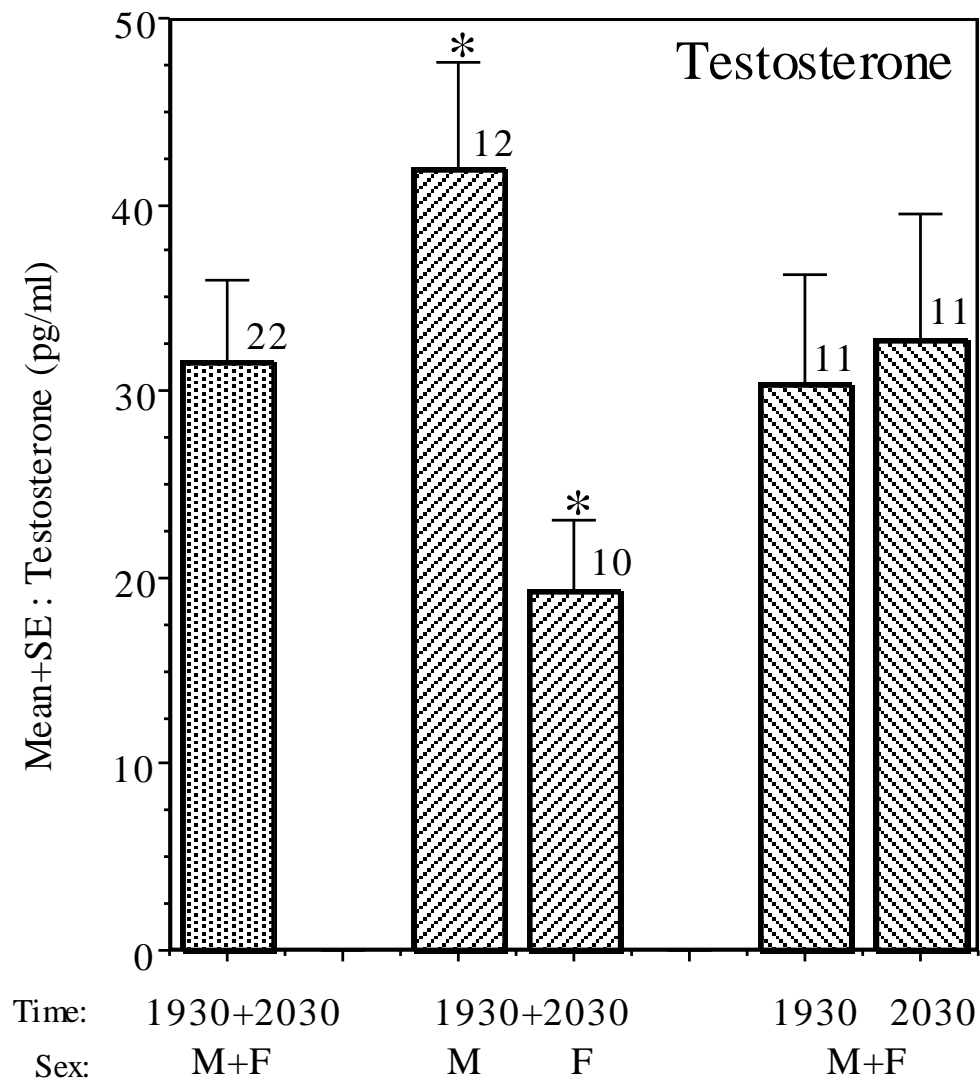
Marker for Neurologic System



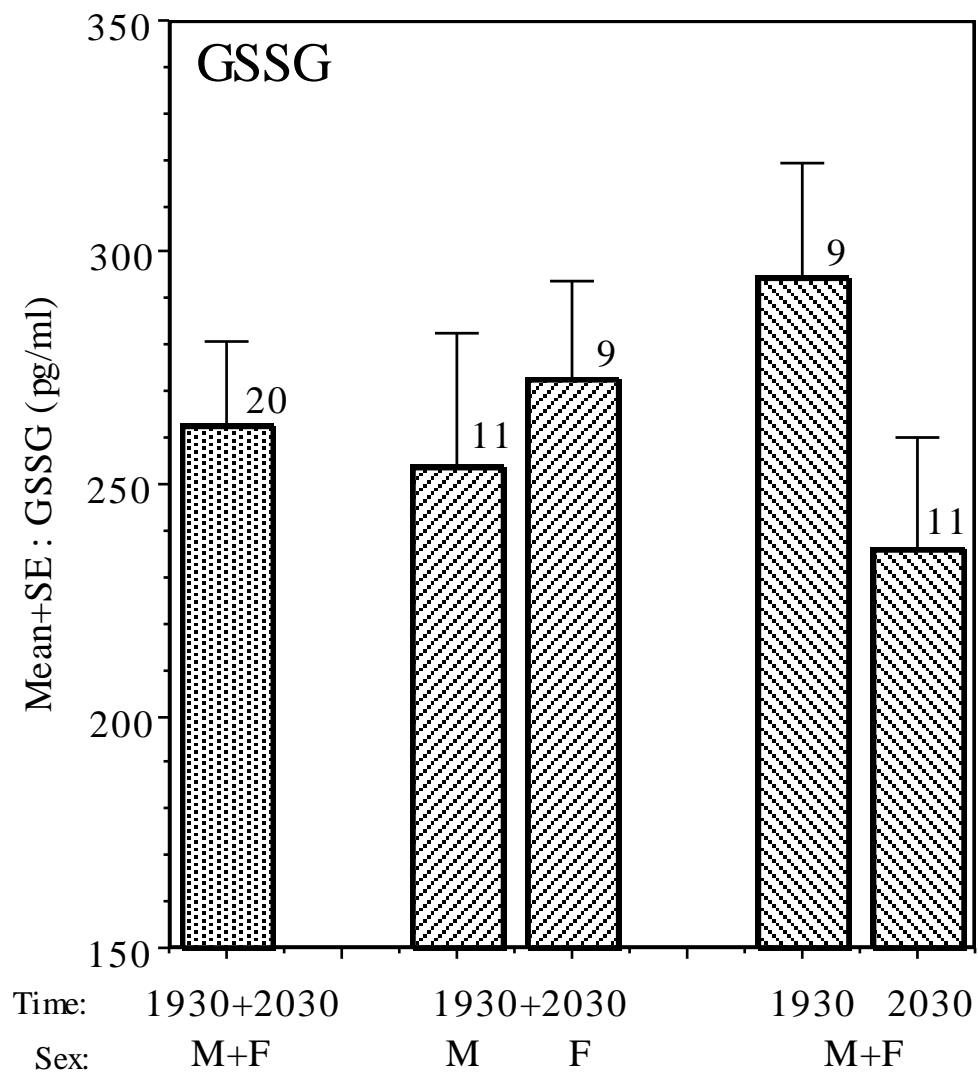
Marker for Neurologic System



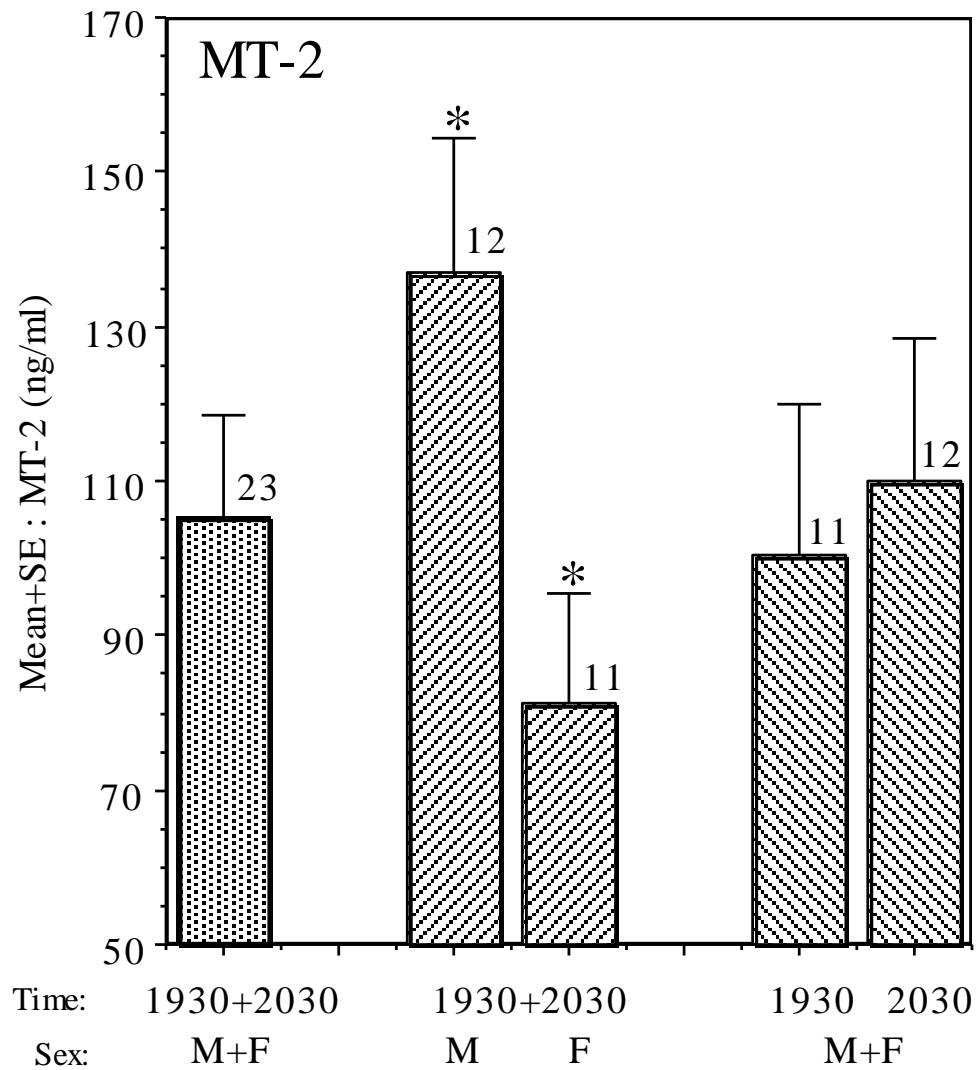
Marker for Neurologic System



Marker for Toxicologic System



Marker for Toxicologic System



Summary

- Each system of the body in which autism is manifest is represented by at least one biomarker
- Together the chosen biomarkers interact in unifying concepts of the cause of autism