

PPAR α activation influences plasma one-carbon metabolites and B-vitamin status in rats

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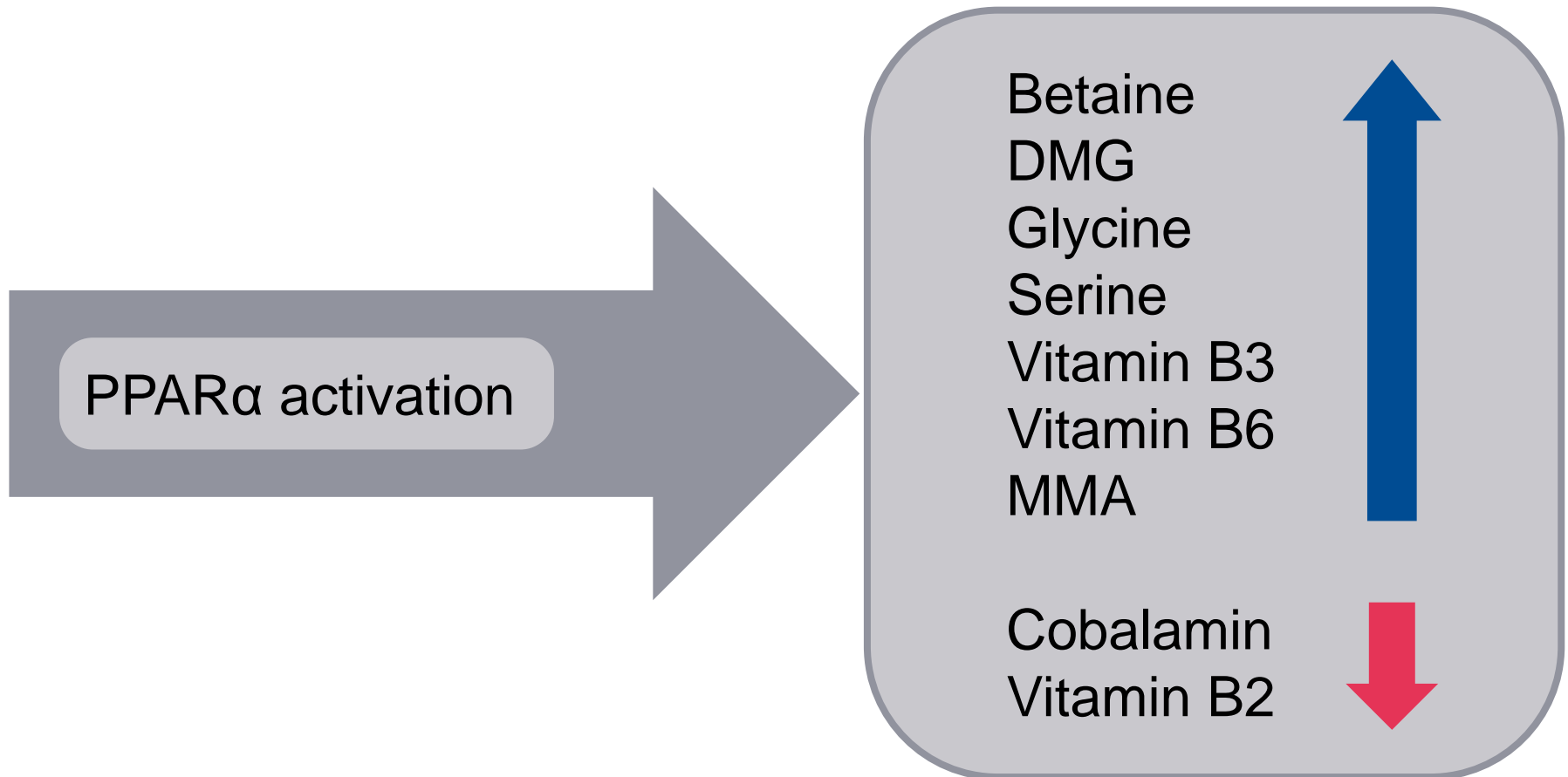
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Key findings

PPAR α activation influences plasma metabolites



PPARs

Peroxisome proliferator-activated receptors

3 subtypes:

- PPAR α , PPAR γ , PPAR β/δ

Energy metabolism

PPAR α involved in one-carbon metabolism

- DMGDH ↓
- SARDH ↓
- GNMT ↓

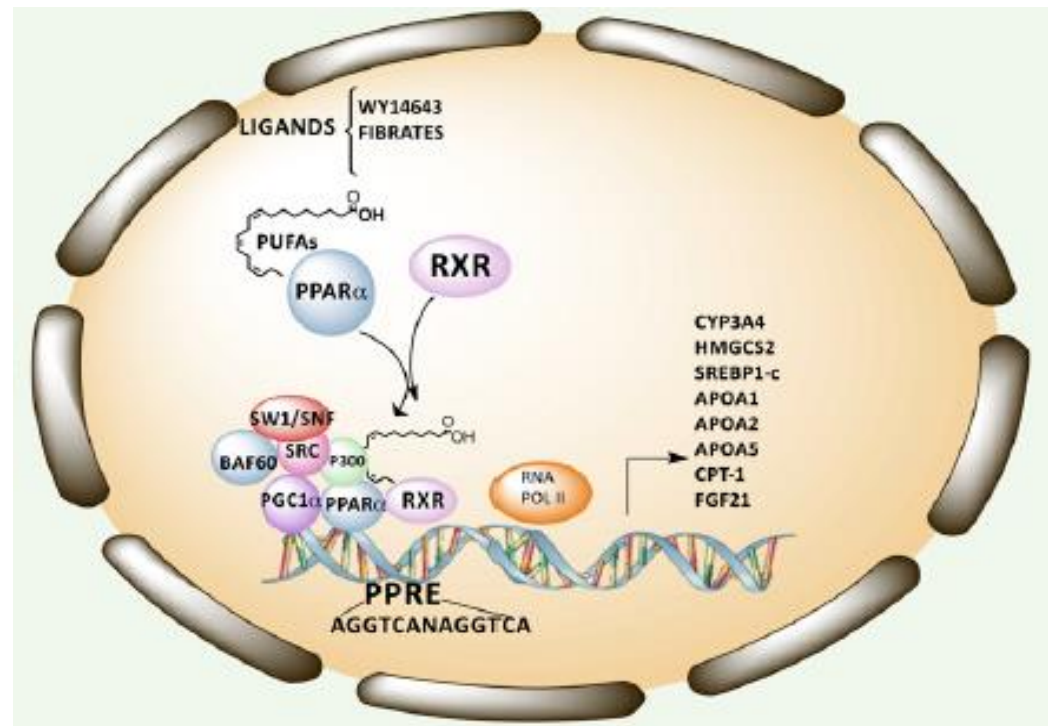


Figure: Contreras, A, et al. Adv Nutr 2013.

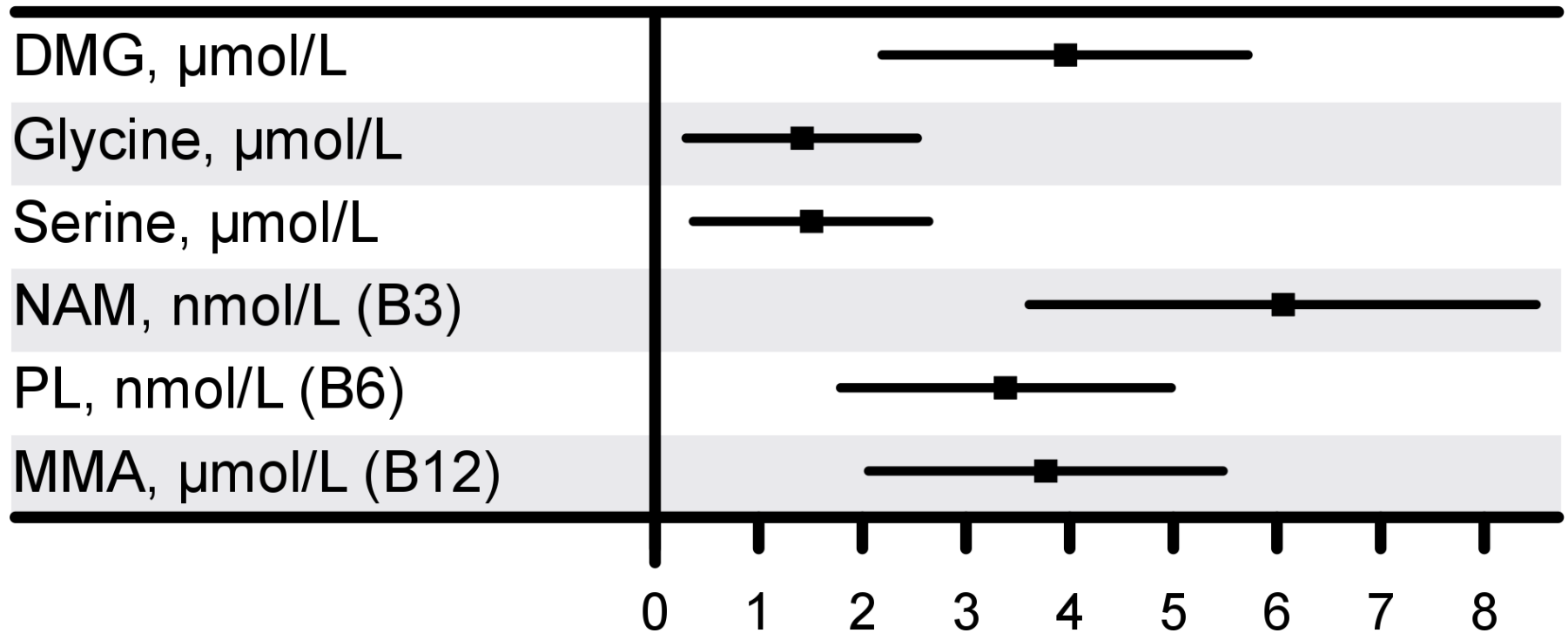
Sheikh, K. *Am J Physiol Endocrinol Metab*(2007).

Chu, R. *Mol Cell Biol*(2004).

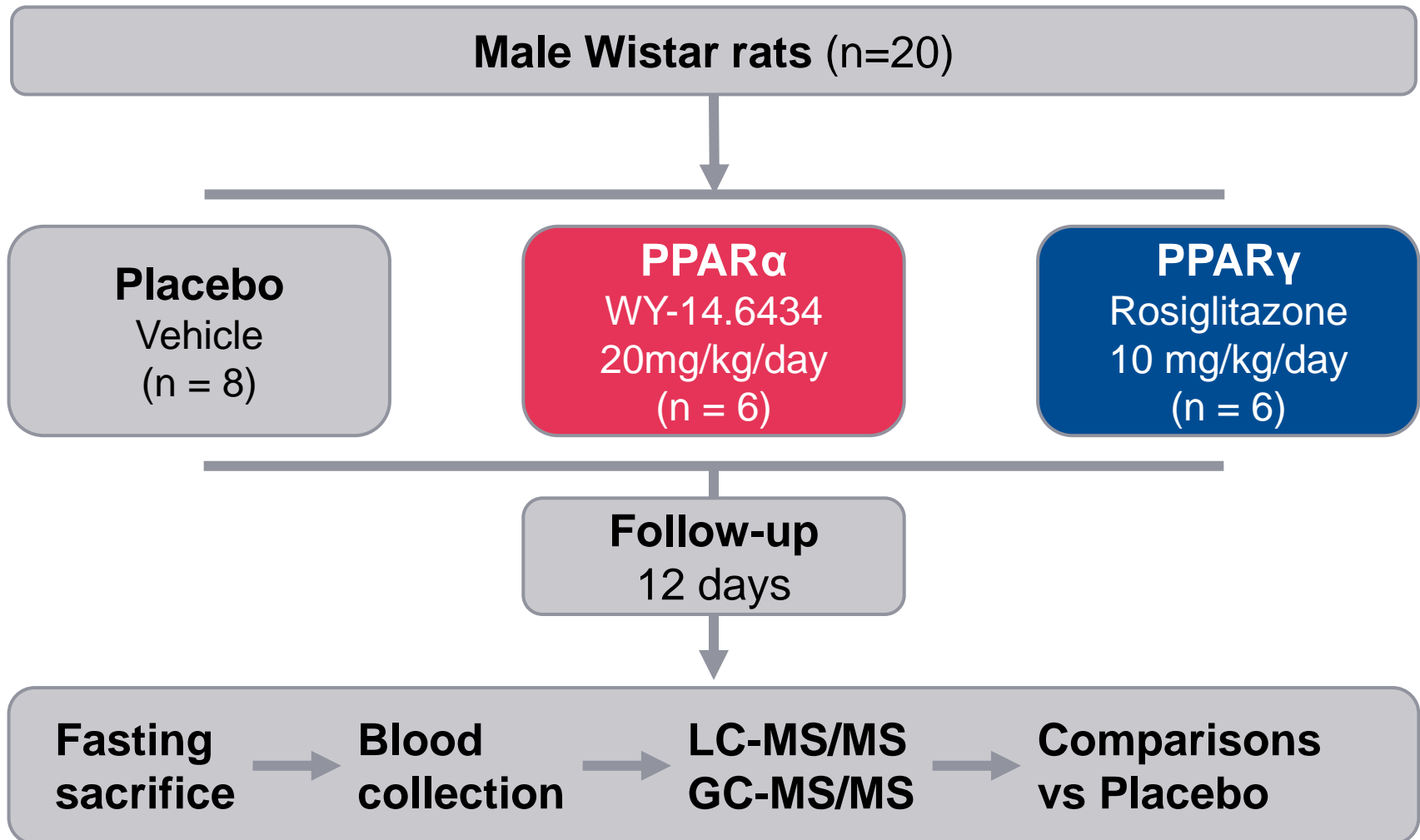
Wrzesinski, K. *J Proteomics*.(2013)

PPAR activation by a tetradecylthioacetic acid (TTA) increased plasma one-carbon and B-vitamins in rats

SMD: TTA vs Control

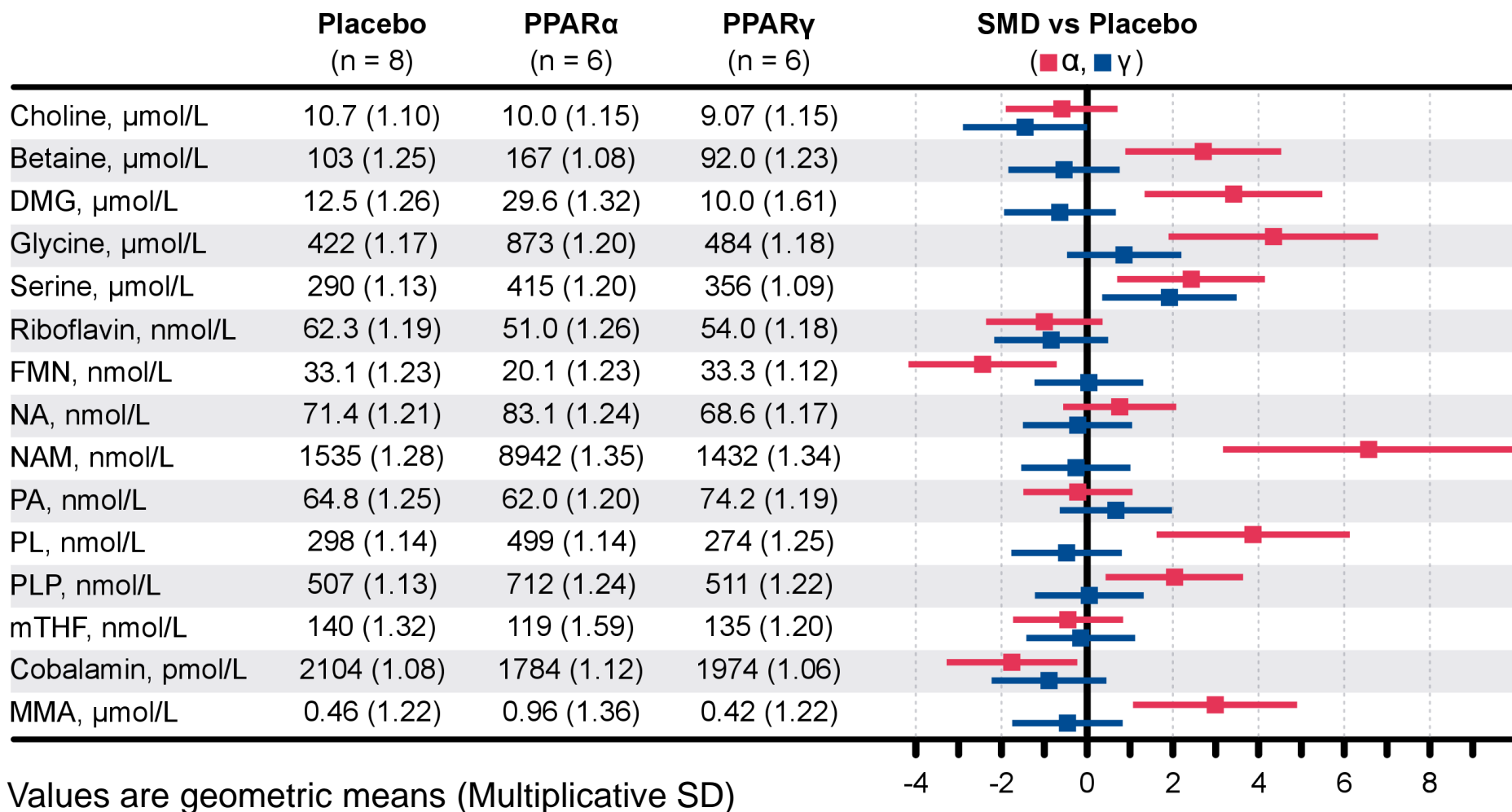


Study design



Effect of PPAR activation

One-carbon metabolites and B-vitamins



Conclusion

Activation of PPAR α , but not PPAR γ , influences plasma concentration of metabolites along the choline oxidation pathway and markers of B-vitamin status in rats.

