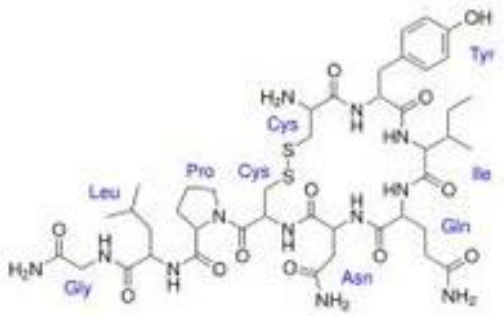
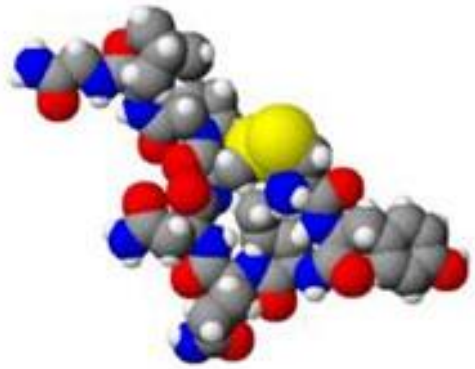
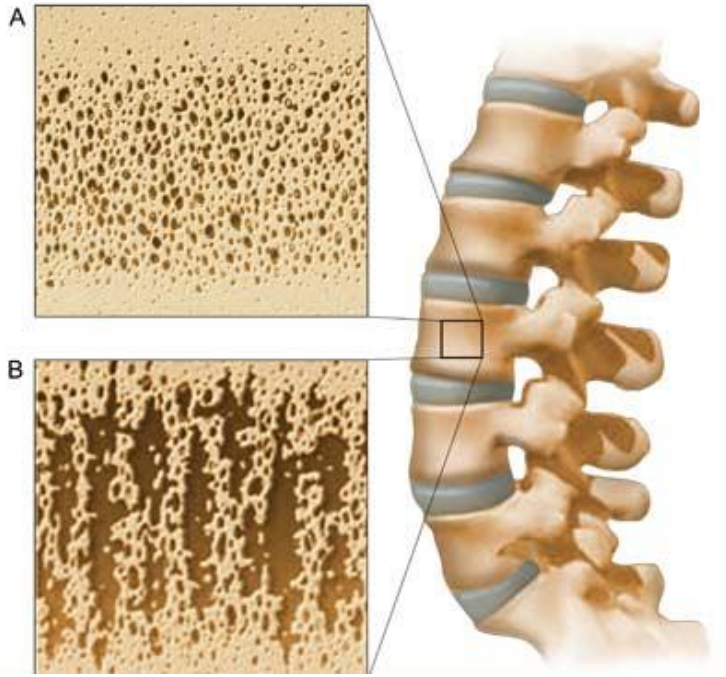
Oxytocin and bone remodeling: relationship between hormones and bone status





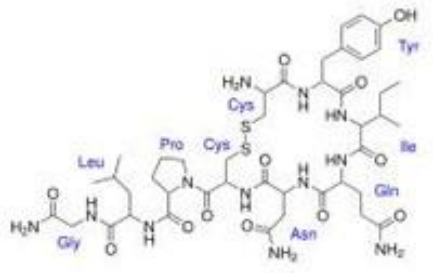
Oxytocin

By
Joel Sandé



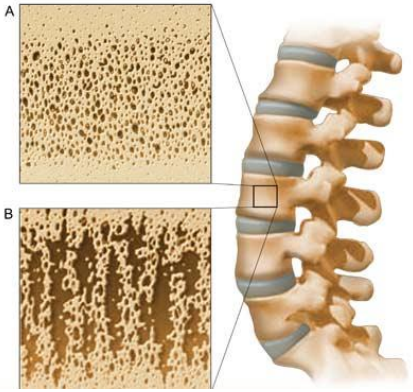
Osteoporosis

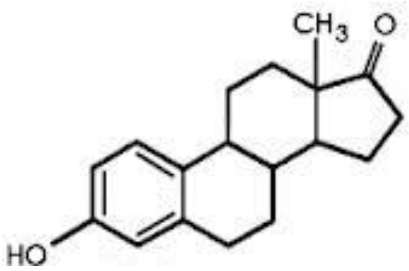
High



Oxytocin

low

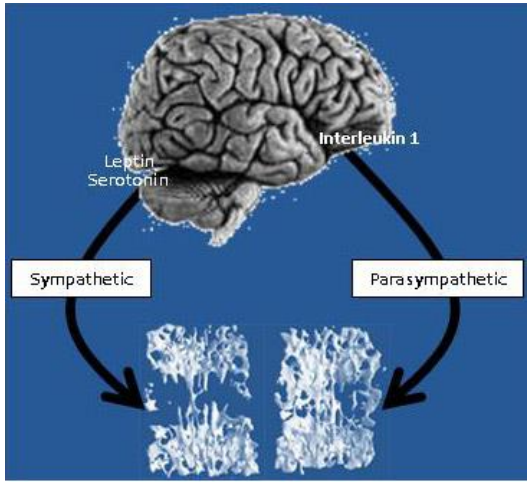


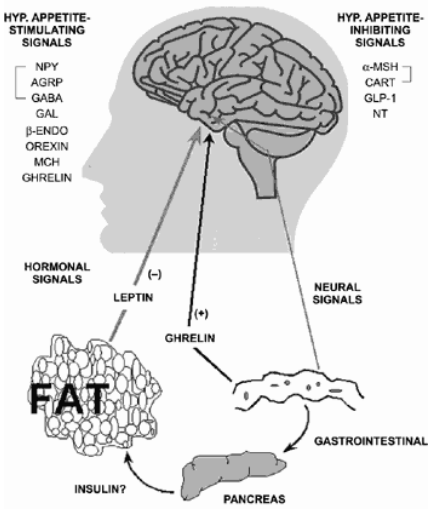


Estrogen

Leptine

regulate the secretion of Oxytocin





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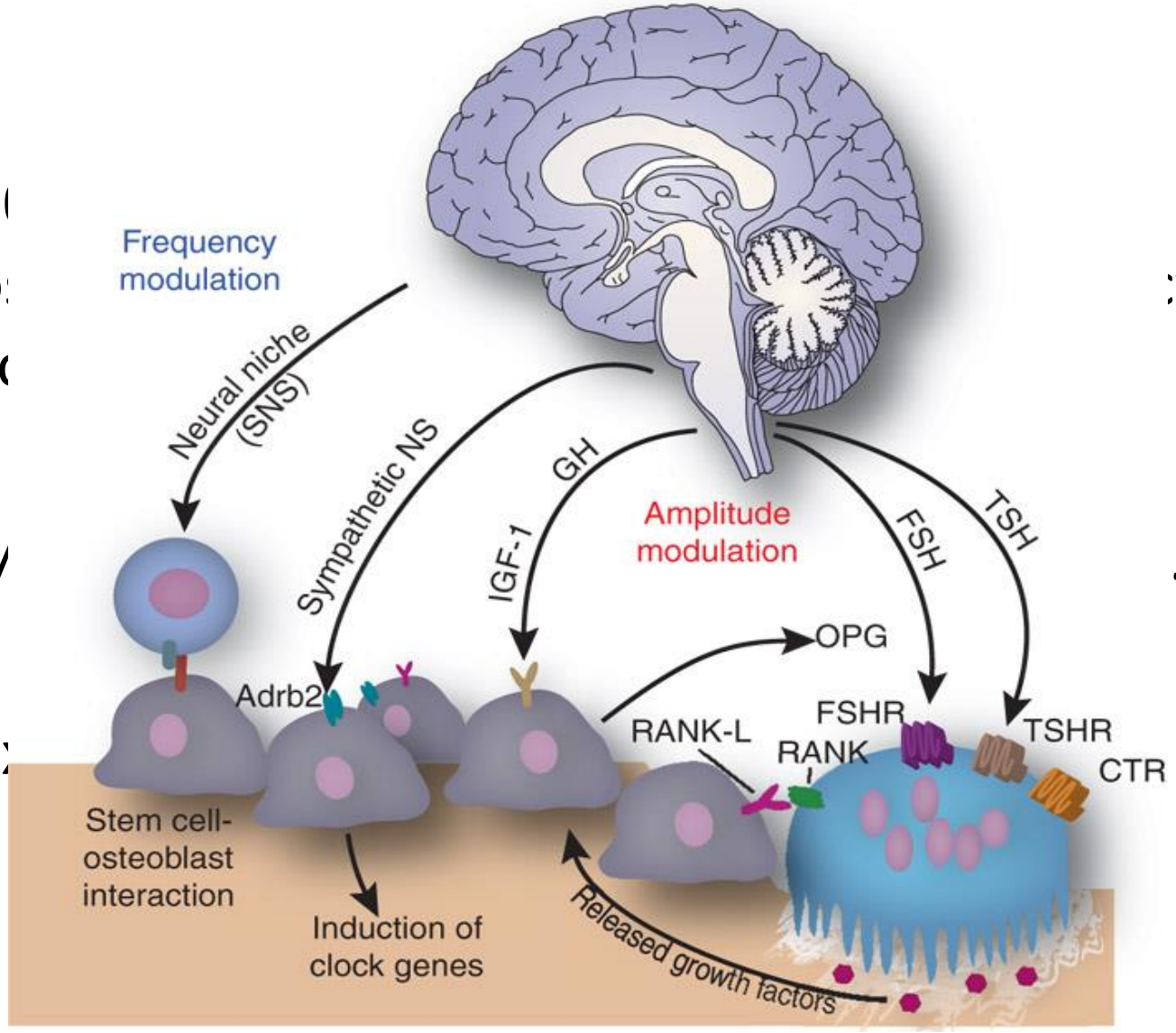
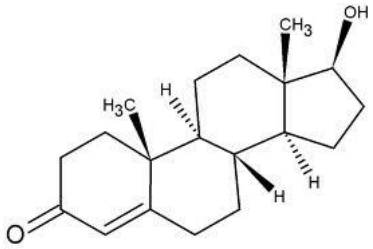


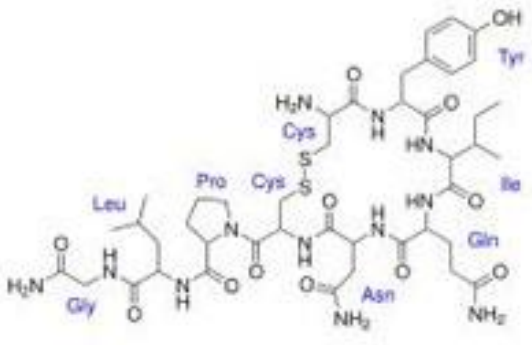
They study the relationship between oxytocin and other hormonal factors known to regulate bone remodeling and body composition in osteoporosis

Method

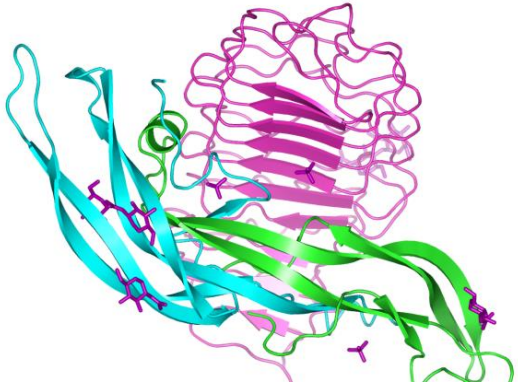
- Serum levels of



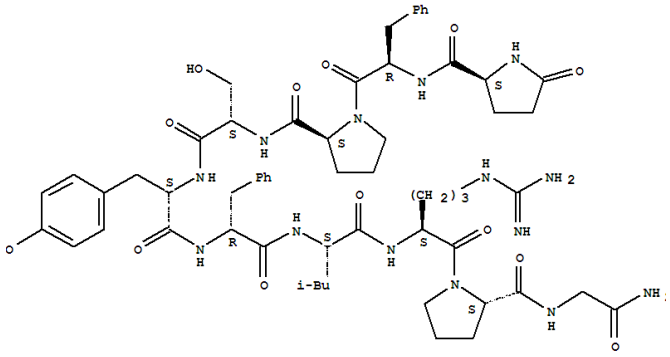
Testosteron



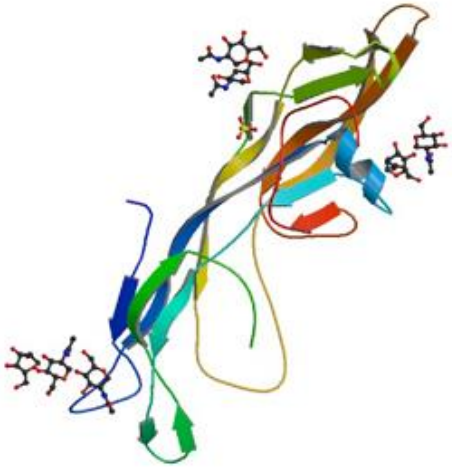
Oxytocin



Follicule Stimulating Hormone (FSH)



Luteinizing Hormone (LH)

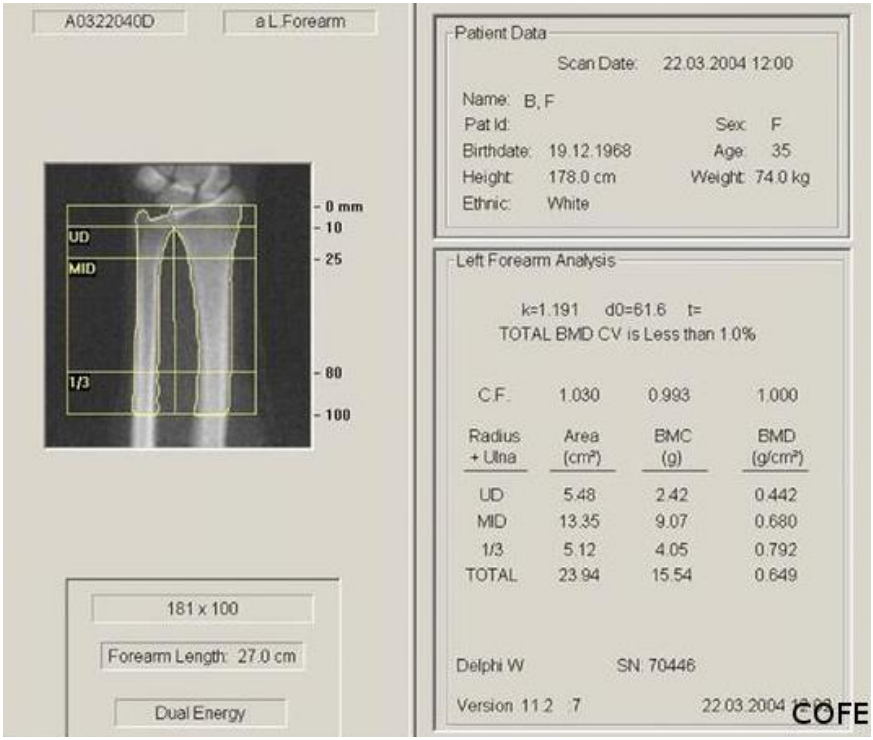


Thyroide Stimuling Hormone (TSH)

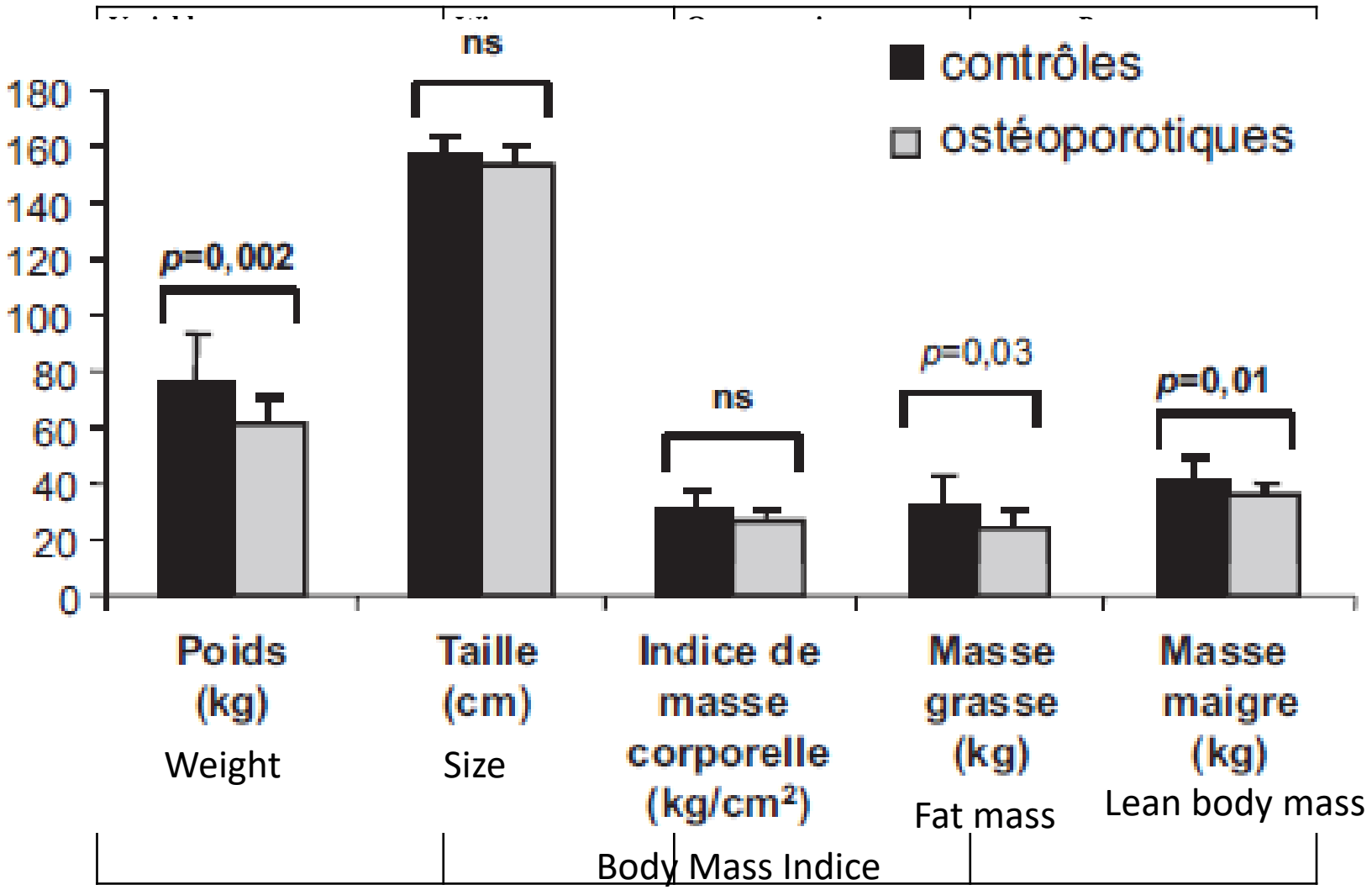
Leptine

Method

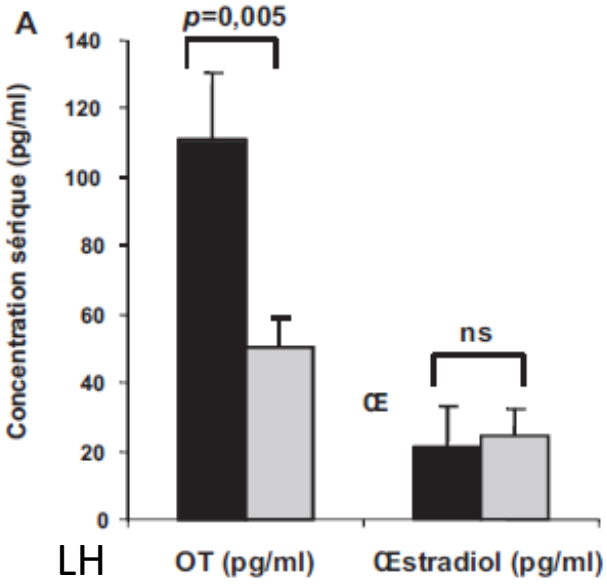
- Bone mineral density and body composition were also determined by X-ray absorptiometry (DEXA).



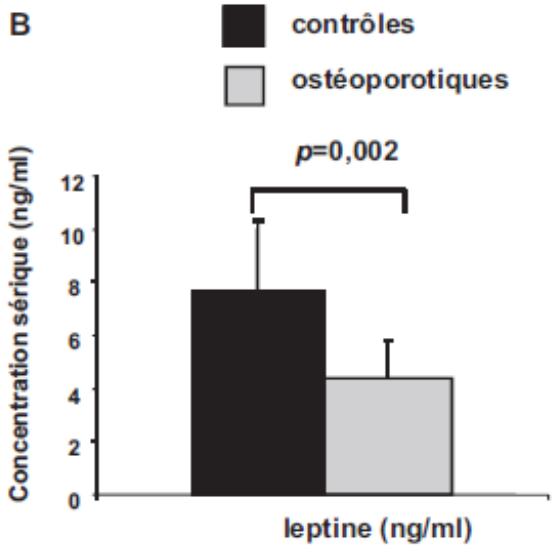
Results


ns
contrôles
ostéoporotiques
180
160
140
120
100
80
60
40
20
0
p=0,002
ns
p=0,03
p=0,01
Poids (kg)
Taille (cm)
Indice de masse corporelle (kg/cm²)
Masse grasse (kg)
Masse maigre (kg)
Weight
Size
Fat mass
Lean body mass
Body Mass Indice

Results and Discussion



TSH, Testosteron



(knowing that Ostragen and Leptin regulate Oxytocin)

Discussion

- Serum levels of oxytocin were significantly correlated with bone mineral density regardless of Leptin, Estrogen and age.

- Lean body mass and fat mass were lowered in women OP, but not BMI, identified as a risk classic osteoporosis.

- The significant decrease of OT in serum OP women observed in the absence of significant changes in serum estrogen, testosteron enhances the role played by low OT in OP.

Conclusion

- ✓ Low serum levels of Oxytocin appear to be associated with severe osteoporosis independent of other factors associated with osteoporosis or known to regulate serum levels of Oxytocin, such as Estradiol or Leptin, reinforcing the concept that :

- ✓ Only a low Oxytocin is involved in osteoporosis.

- ✓ Oxytocin may be involved in the pathophysiology of postmenopausal osteoporosis.

This opens a new therapeutic avenue in the support of ostoeporosis.

Reference

Véronique Breuila, Ez-Zoubir Amric, Patricia Panaia-Ferrarid, Jean Testae, Christian Elabdc, Christine Albert-Sabonnadièrea, Christian Hubert Rouxa, Gérard Ailhaudc, Christian Danic, Georges F. Carleb, Liana Euller-Ziegler. **Ocytocine et remodelage osseux : relation entre hormones pituitaires, statut osseux et composition corporelle.** Elsevier Masson, 2011.