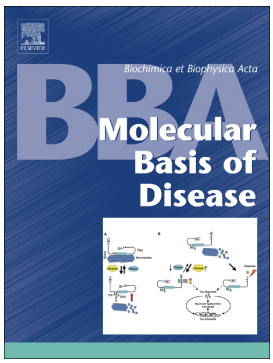

Pigment epithelium derived factor regulates human Sost/Sclerostin and other osteocyte gene expression via the receptor and induction of Erk/GSK-3beta/beta-catenin signaling

Feng Li, Jarret D. Cain, Joyce Tombran-Tink, Christopher Niyibizi

PII: S0925-4439(18)30283-7
DOI: doi:10.1016/j.bbadis.2018.07.034
Reference: BBADIS 65204

To appear in: *BBA - Molecular Basis of Disease*

Received date: 2 April 2018
Revised date: 11 July 2018
Accepted date: 30 July 2018

Please cite this article as: Feng Li, Jarret D. Cain, Joyce Tombran-Tink, Christopher Niyibizi , Pigment epithelium derived factor regulates human Sost/Sclerostin and other osteocyte gene expression via the receptor and induction of Erk/GSK-3beta/beta-catenin signaling. Bbadis (2018), doi:10.1016/j.bbadis.2018.07.034

Pigment epithelium derived factor regulates human Sost/Sclerostin and other osteocyte gene expression via the receptor and induction of Erk/GSK-3beta/beta-catenin signaling

Feng Li[a], Jarret D Cain[a], Joyce Tombran-Tink[a,b], Christopher Niyibizi[a,c*].

[a]Penn State College of Medicine, Department of Orthopaedics and Rehabilitation, Hershey, PA

[b]Department of Neural and Behavioral Sciences, Penn State College of Medicine, Hershey, PA

[c]Department of Biochemistry and Molecular Biology, Penn State college of Medicine, Hershey, PA

*To whom correspondence should be addressed

Christopher Niyibizi, PhD.

Associate Professor, Department of Orthopaedics and Rehabilitation H089

and Biochemistry and Molecular Biology

Penn State College of Medicine,

500 University Drive, Hershey PA, USA, 17033

Tel: 717-531-5649

E-mail: cniyibizi@psu.edu

Highlights

- PEDF suppressed expression of osteocytes genes encoding proteins that regulate matrix mineralization
- PEDF regulated osteocyte gene expression via PEDF receptor
- Erk activation induced inactivation of GSK-3β
- Gsk-3β inactivation stabilized β-catenin followed by its migration into the nucleus to regulate target genes.

.