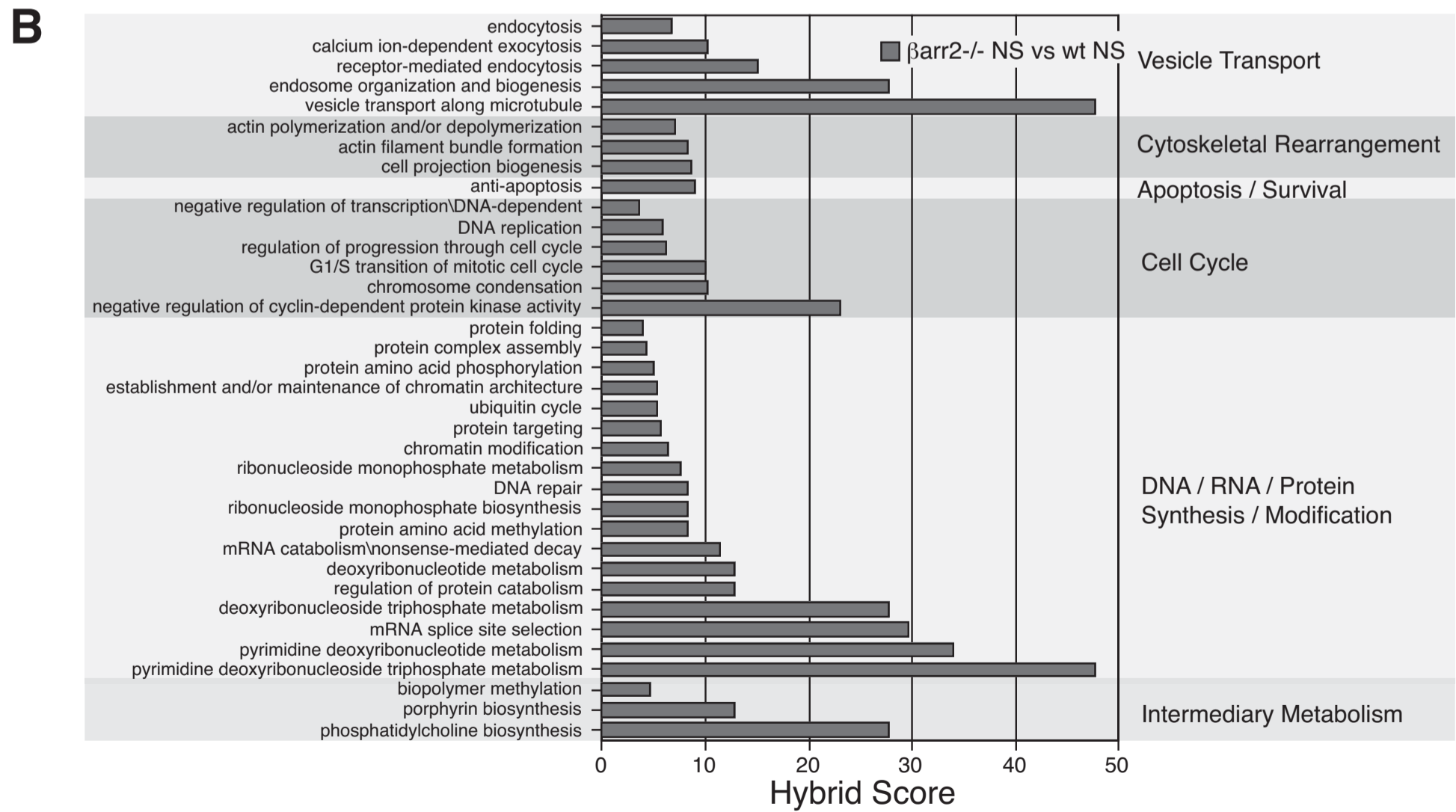
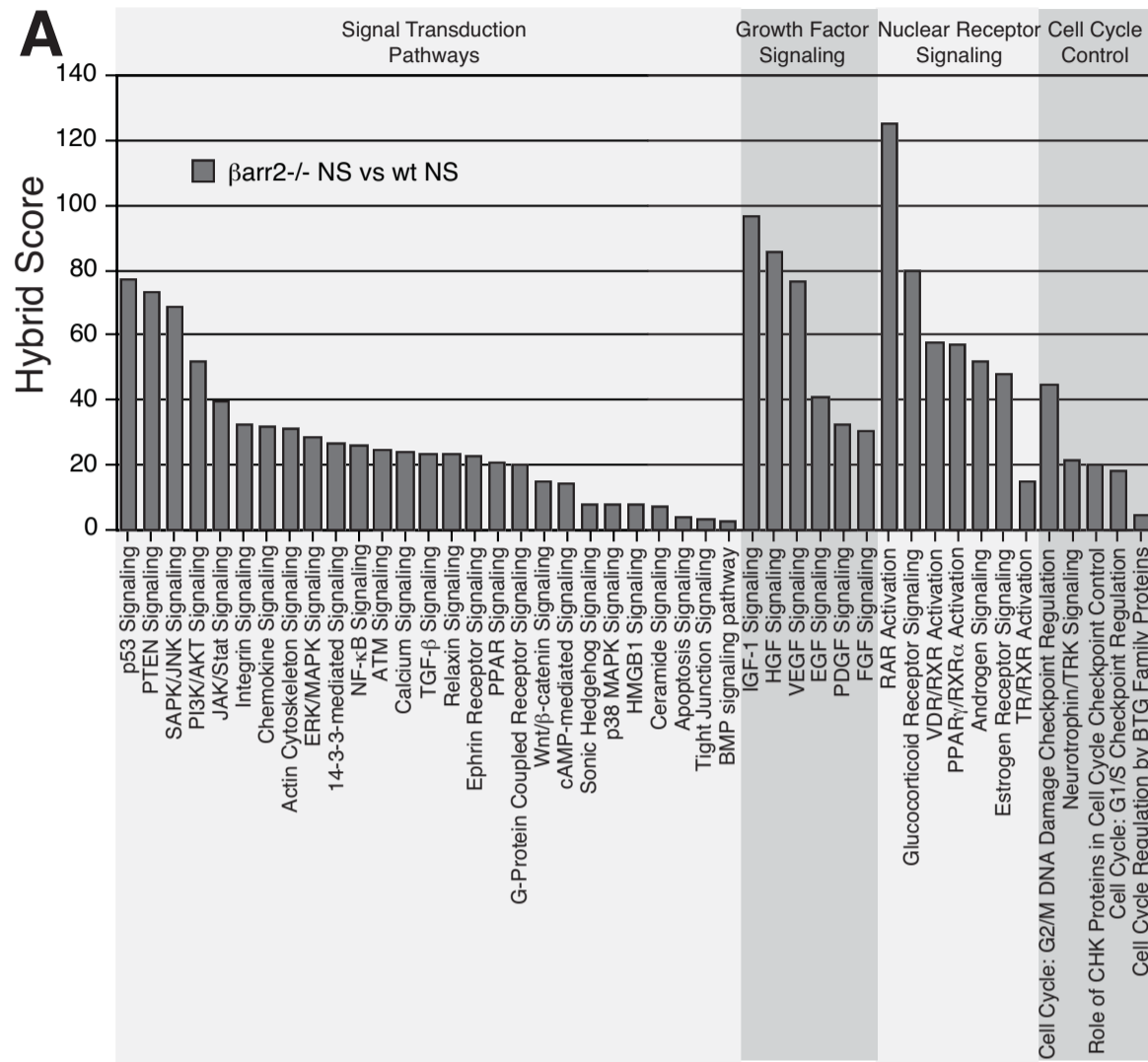


900 **Supplemental Figure Legends**

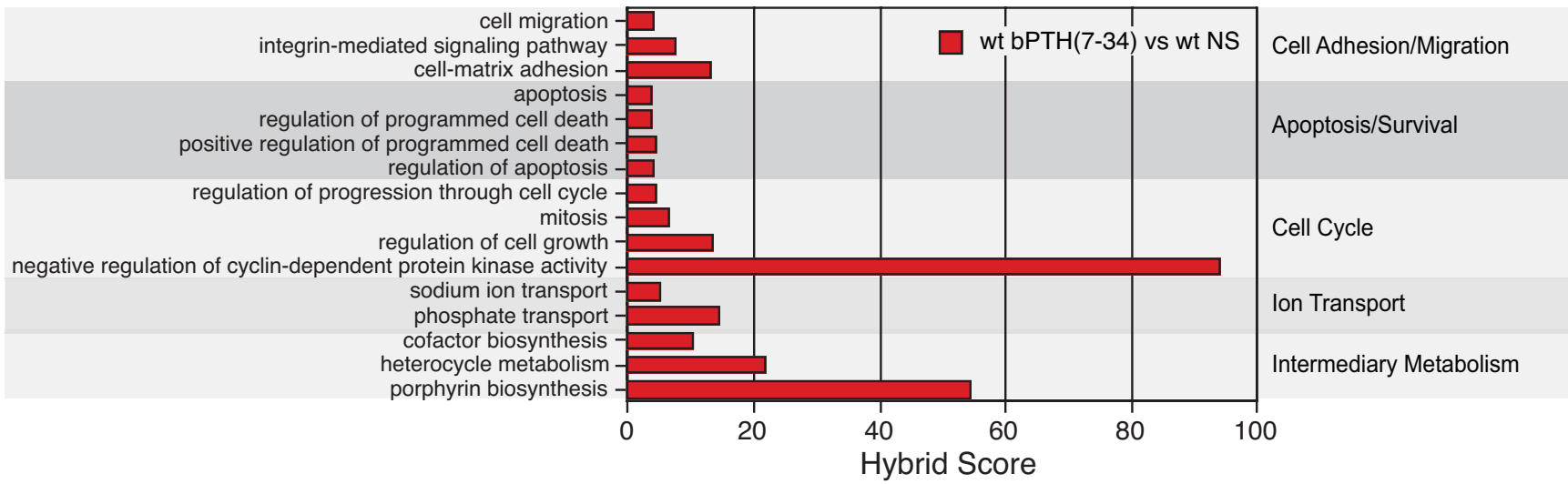
901 **SUPPL. FIG. 1.** Effect of β -arrestin2 expression on bone metabolic pathways under homeostatic
902 conditions. **A**, The complete set of 1623 calvarial transcripts with significantly different expression
903 between vehicle treated wild type (wt NS) and β -arrestin2 null (β arr2^{-/-} NS) mice was analyzed by
904 parametric geneset enrichment of classical signaling pathways. Common pathways from two distinct
905 databases were used: Molecular Signatures Database (www.broadinstitute.org/gsea) and Ingenuity
906 Pathway analysis (www.ingenuity.com/). Selected functional signaling pathways corresponding to signal
907 transduction, growth factor signaling, nuclear receptor signaling and cell cycle control are shown with
908 their associated hybrid score ($-\log_{10}(p) \times$ pathway enrichment ratio). All pathways shown were
909 significantly populated ($p \leq 0.05$) by at least two individual genes. **B**, The wt NS vs β arr2^{-/-} NS geneset
910 was used to query the GOBP database (www.geneontology.org). GOBP terms falling into the general
911 categories of intermediary metabolism, DNA/RNA/protein synthesis/modification, cell cycle,
912 apoptosis/survival, cytoskeletal rearrangement, and vesicle transport are shown. Hybrid GO term
913 populations scores ($-\log_{10}(p) \times$ GO term enrichment factor) shown for each GO term group were
914 calculated using WebGestalt (<http://bioinfo.vanderbilt.edu/webgestalt/>) from groups populated with at
915 least 2 individual genes and $p \leq 0.05$.

916 **SUPPL. FIG. 2.** Effect of bPTH(7-34) and hPTH(1-34) treatment on biological processes in wild type
917 and β -arrestin2 null mice. **A**, The wt bPTH(7-34) vs wt NS geneset was used to query the GO term
918 biological process database. GOBP terms falling into the categories of intermediary metabolism, ion
919 transport, cell cycle, apoptosis/survival, and cell adhesion/migration are shown. Hybrid scores for each
920 significantly populated GO term groups were calculated by the product of $-\log_{10}(p) \times$ GO term
921 enrichment factor (*WebGestalt*: <http://bioinfo.vanderbilt.edu/webgestalt/>). **B**, Identical analysis performed
922 using the wt hPTH(1-34) vs wt NS geneset. GOBP terms falling into the general categories of
923 intermediary metabolism, ion transport, DNA/RNA/protein synthesis and modification, cell
924 adhesion/migration, bone matrix biosynthesis, and skeletal development/ differentiation are shown.

925 Hybrid score reflects the probability that the observed differences in gene expression in a given gene
926 cluster did not occur by chance. All GObp shown exceed a minimal threshold significance of $p \leq 0.05$.
927



A



B

