



Online resource 1: Sholl analysis of cultured hippocampal neurons overexpressing HspB1, HspB5, HspB6 and HspB8 after one week of differentiation.

Sholl analysis of dendritic arbors at DIV 7 of control neurons and neurons transduced at DIV 1 with empty-, HspB1-, HspB5-, HspB6- and HspB8-virus. (A) and (B) show data of an identical experimental series with labels for statistical differences versus control (A, # < p 0.05) and versus empty-vector transduced neurons (B, * < p 0.05). HspB1 overexpression led to a significant increased number (versus control and versus empty-vector) of intersections with the Sholl circle at 15 μm , representing mainly primary dendrites. At distances up to 60 μm from the soma a trend for increased dendritic complexity could be observed for HspB5 and HspB8 reaching in some cases the level of significance measured versus control but not versus empty-vector. At distances further away neurons transduced with empty-vector displayed slightly but significantly lower number of intersections compared to controls and HspB-expressing neurons showed slightly and significantly higher numbers of intersections compared to the empty-vector transduced neurons but not to controls. Thus, even though there are some slight significant effects of HspBs on dendritic arborization one can assume that these subtle changes are not relevant for neuronal function. The data of control neurons, empty-vector and HspB5-virus transduced neurons are the identical data as presented in figure 5 and are repeated here for better comparison. n = 75 (neurons from four independent experiments).