



913 **Supplemental Figure 1. Subcellular distribution of PDE6C and its R565Q mutant co-**  
914 **expressed with P $\gamma$  or AIPL1 in HEK293T cells.**  
915 Confocal immunofluorescence images of HEK293T cells (A) co-transfected with PDE6C or  
916 R565Q (red, anti-PDE6C) and EGFP-P $\gamma$  (green, EGFP fluorescence). (B), co-transfected with  
917 PDE6C (red, anti-PDE6C) and AIPL1 vector (AIPL1: green, anti-HA) Blue, TO-PRO3 nuclear  
918 stain. The findings suggest that the distributions of PDE6C and R565Q in HEK293T cells are  
919 qualitatively similar.  
920  
921

922

PDE5AB_Zebrafish	LEVLSYHASAAEEETRALQVTAATAATIPSAQSLRLMDYSFSD	FDLTD	AETTQATIRMFVDL	580
PDE5_CHICK	LEVLSYHASAAEEESRELQVTAADVPSAQSLLNLTDFNFSD	FELSD	FETTLCTIRMFTDL	574
PDE5A_MOUSE	LEVLSYHASAAEEETRELQALSAADVPSAQTLLKITDFSFSDF	FELSD	LETALCTIRMFTDL	572
PDE5A_HUMAN	LEVLSYHASAAEEETRELQSLAAADVPSAQTLLKITDFSFSDF	FELSD	LETALCTIRMFTDL	582
PDE5A_Green_Monkey	LEVLSYHASAAEEETRELQSLAAADVPSAQTLLKITDFSFSDF	FELSD	LETALCTIRMFTDL	582
	*****:* ** :*.:****:*.: *.:****:*:* ** :****.*			

PDE5AB_Zebrafish	KLVQNFQIKYKVPSPCLQWILSVKKNYRKNVYHNWR	HAFNT	SQCMFAVLKSGRVQNNLSD	640
PDE5_CHICK	NLVQNFQMKH--EVLCRWILSVKKNYRKNVAYHNWR	HAFNT	AQCMFAALKSGKIQSKLTD	632
PDE5A_MOUSE	NLVQNFQMKH--EVLCRWILSVKKNYRKNVAYHNWR	HAFNT	AQCMFAALKAGKIQNKLTD	630
PDE5A_HUMAN	NLVQNFQMKH--EVLCRWILSVKKNYRKNVAYHNWR	HAFNT	AQCMFAALKAGKIQNKLTD	640
PDE5A_Green_Monkey	NLVQNFQMKH--EVLCRWILSVKKNYRKNVAYHNWR	HAFNT	AQCMFAALKAGKIQNKLTD	640
	:*****:*: ** :*****.*****:*****:***** **:*.:*.:**:			

923  
924  
925  
926  
927  
928  
929  
930  
931

**Supplemental Figure 2. Amino acid sequence alignment shows the conservation of Aspartate (D) and Arginine (R) in the catalytic domain of PDE5 across several vertebrate species.**

**Supplemental File 1. The in silico analysis of the effect of the corresponding Human variant LRP5,c.G1694A;p.R565Q. Please see the table header for the meaning of each column. (downloadable Excel file)**