FIG.1

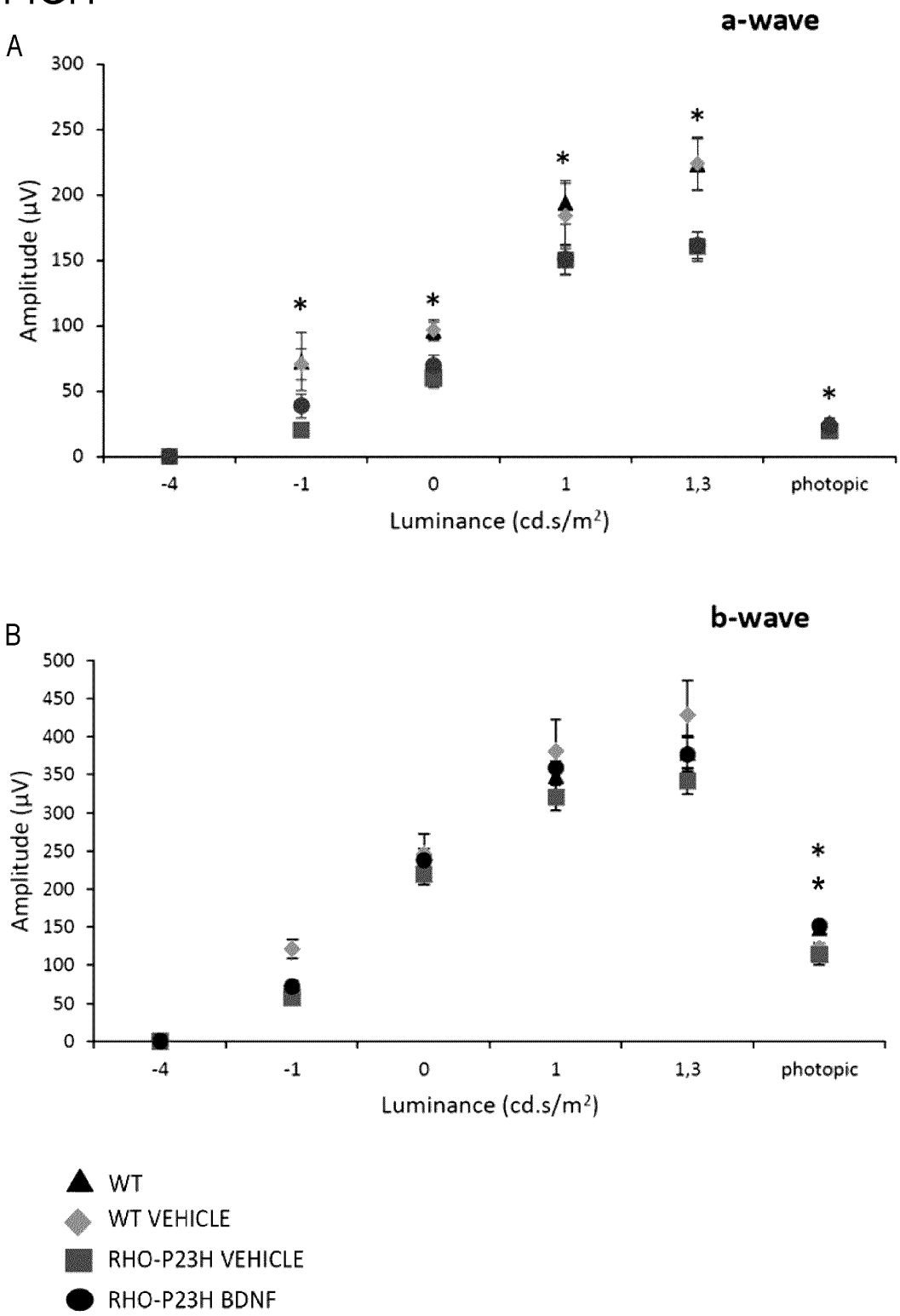

A
a-wave
Amplitude (µV)
300
250
200
150
100
50
0
-4
-1
0
1
1,3
photopic
Luminance (cd.s/m²)
B
b-wave
Amplitude (µV)
500
450
400
350
300
250
200
150
100
50
0
-4
-1
0
1
1,3
photopic
Luminance (cd.s/m²)
WT
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF

FIG.2

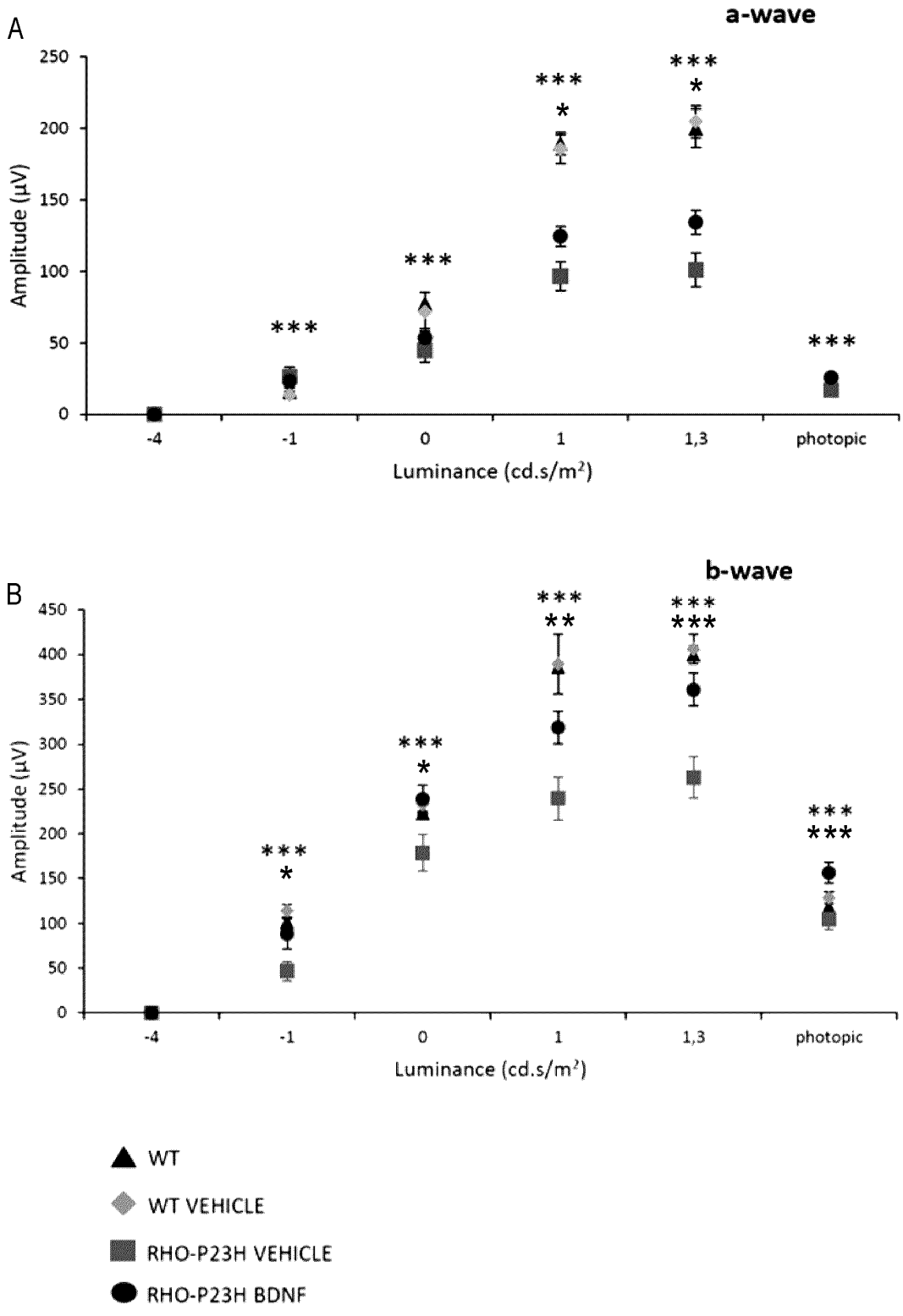
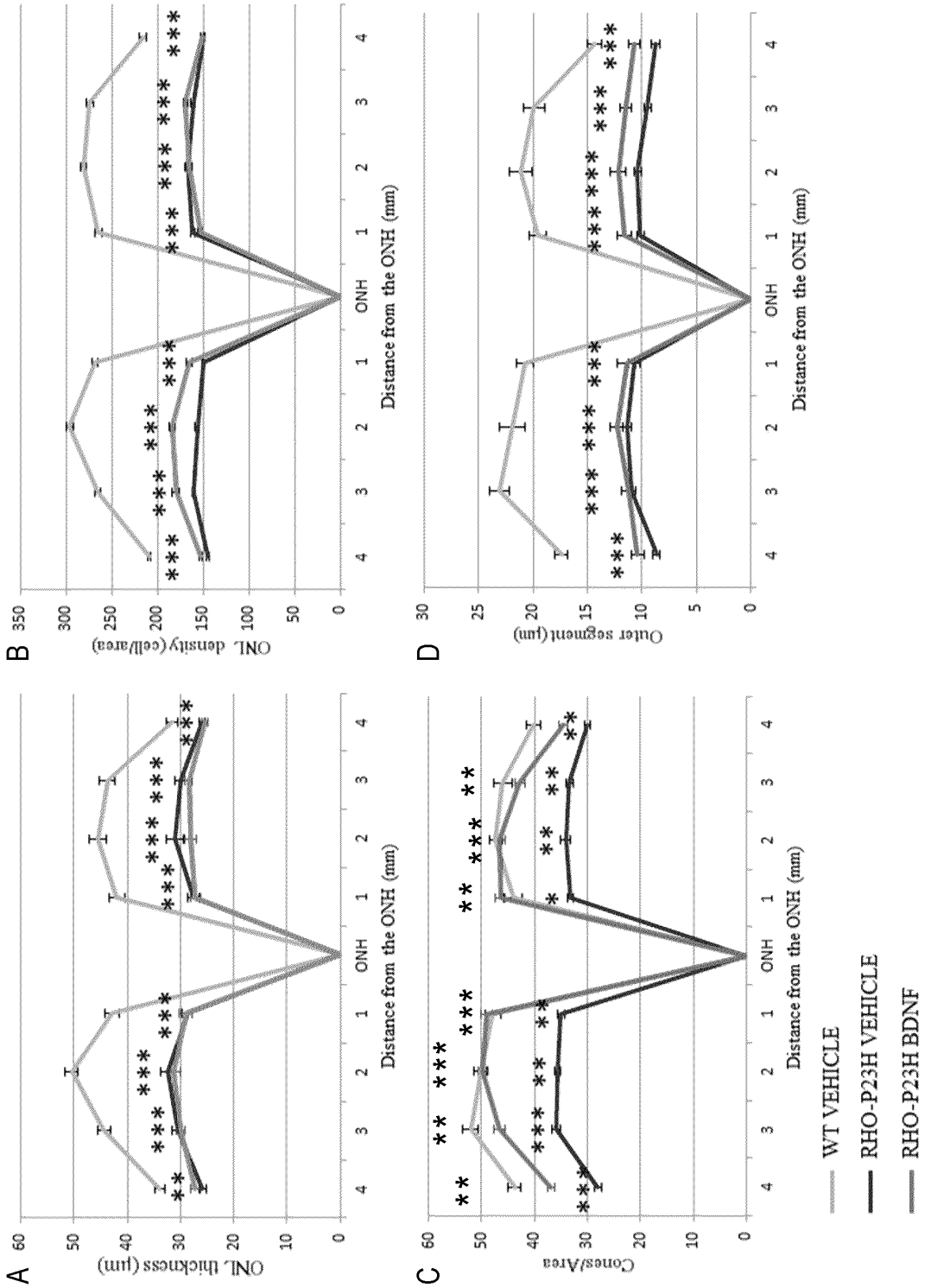

A
a-wave
Amplitude (µV)
250
200
150
100
50
0
***
***
*
***
***
*
***
-4
-1
0
1
1,3
photopic
Luminance (cd.s/m²)
B
b-wave
Amplitude (µV)
450
400
350
300
250
200
150
100
50
0
***
*
***
*
***
**
***
***
***
***
-4
-1
0
1
1,3
photopic
Luminance (cd.s/m²)
WT
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF

FIG.3


A
ONL thickness (µm)
Distance from the ONH (mm)
B
ONL density (cell/area)
Distance from the ONH (mm)
C
Cones/Area
Distance from the ONH (mm)
D
Outer segment (µm)
Distance from the ONH (mm)
ONH
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF

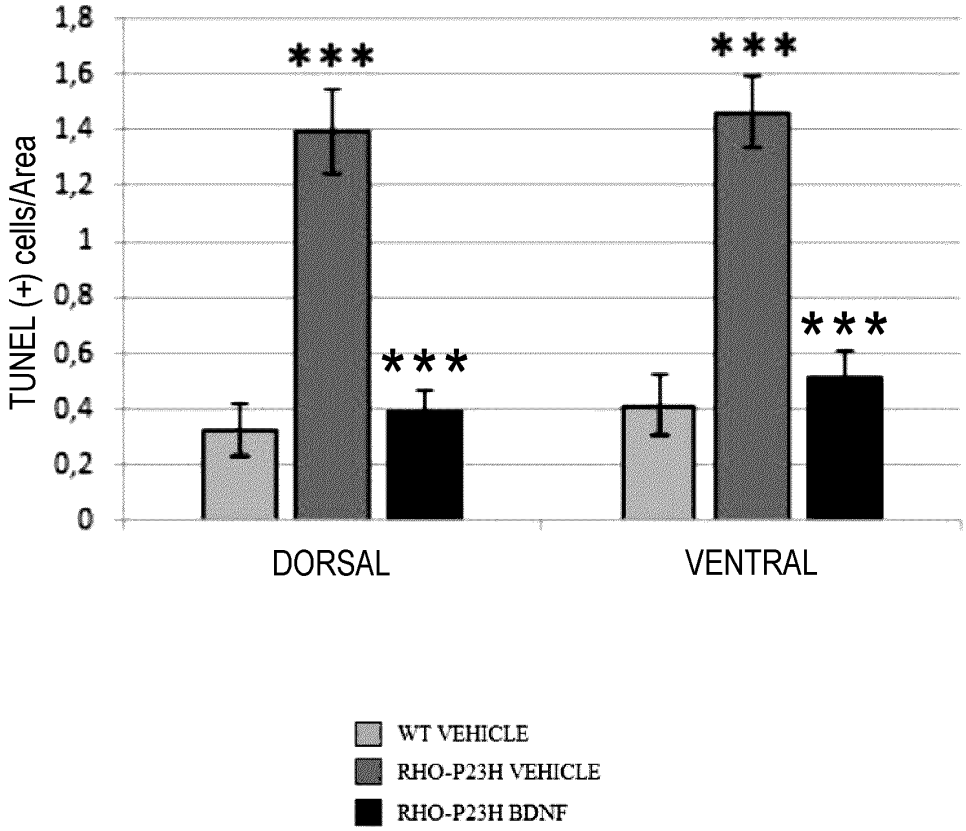

TUNEL (+) cells/Area
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
***
***
***
***
DORSAL
VENTRAL
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF

FIG.4

FIG.5

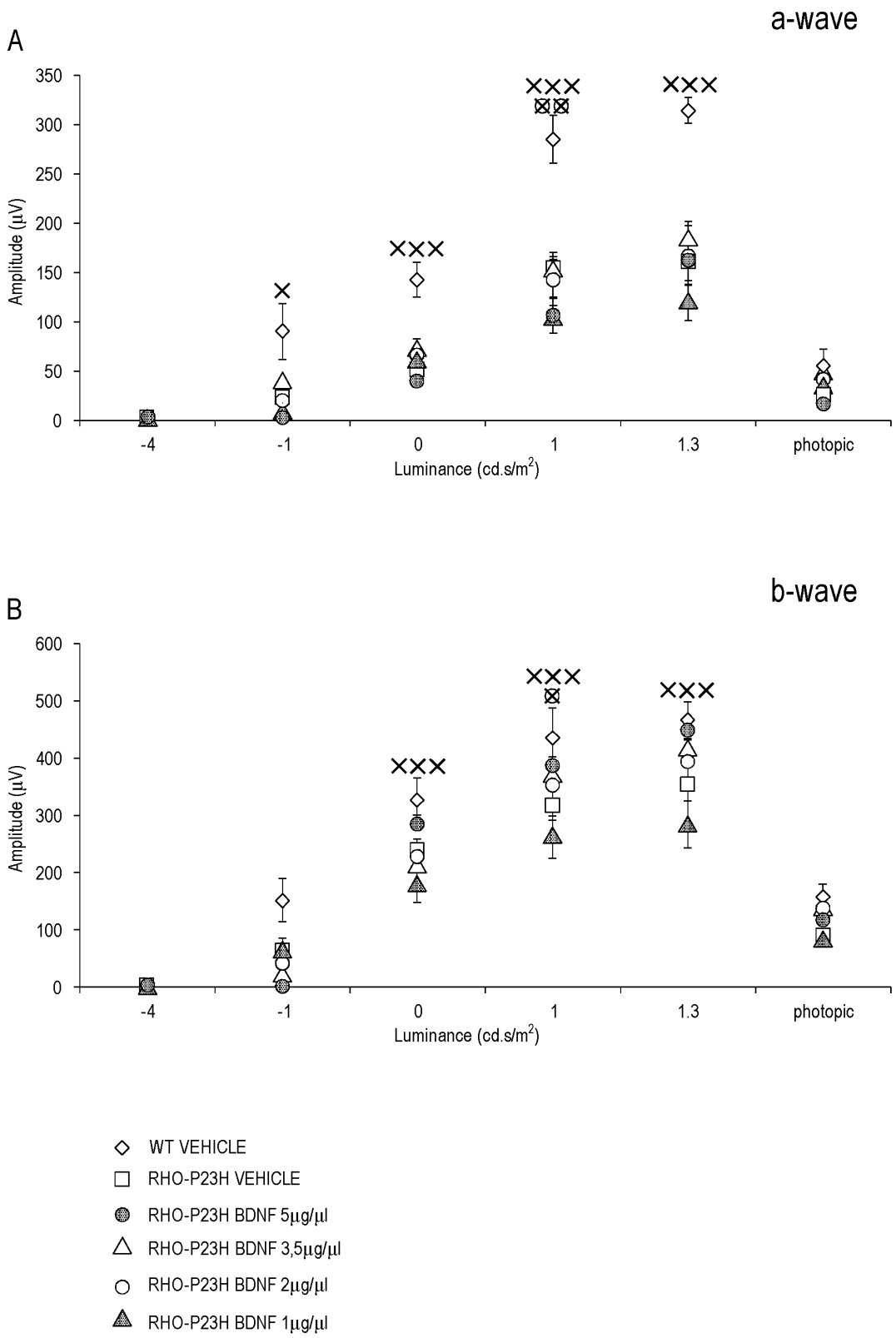

A
a-wave
Amplitude (µV)
350
300
250
200
150
100
50
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m2)
B
b-wave
Amplitude (µV)
600
500
400
300
200
100
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m2)
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF 5µg/µl
RHO-P23H BDNF 3,5µg/µl
RHO-P23H BDNF 2µg/µl
RHO-P23H BDNF 1µg/µl

FIG.6

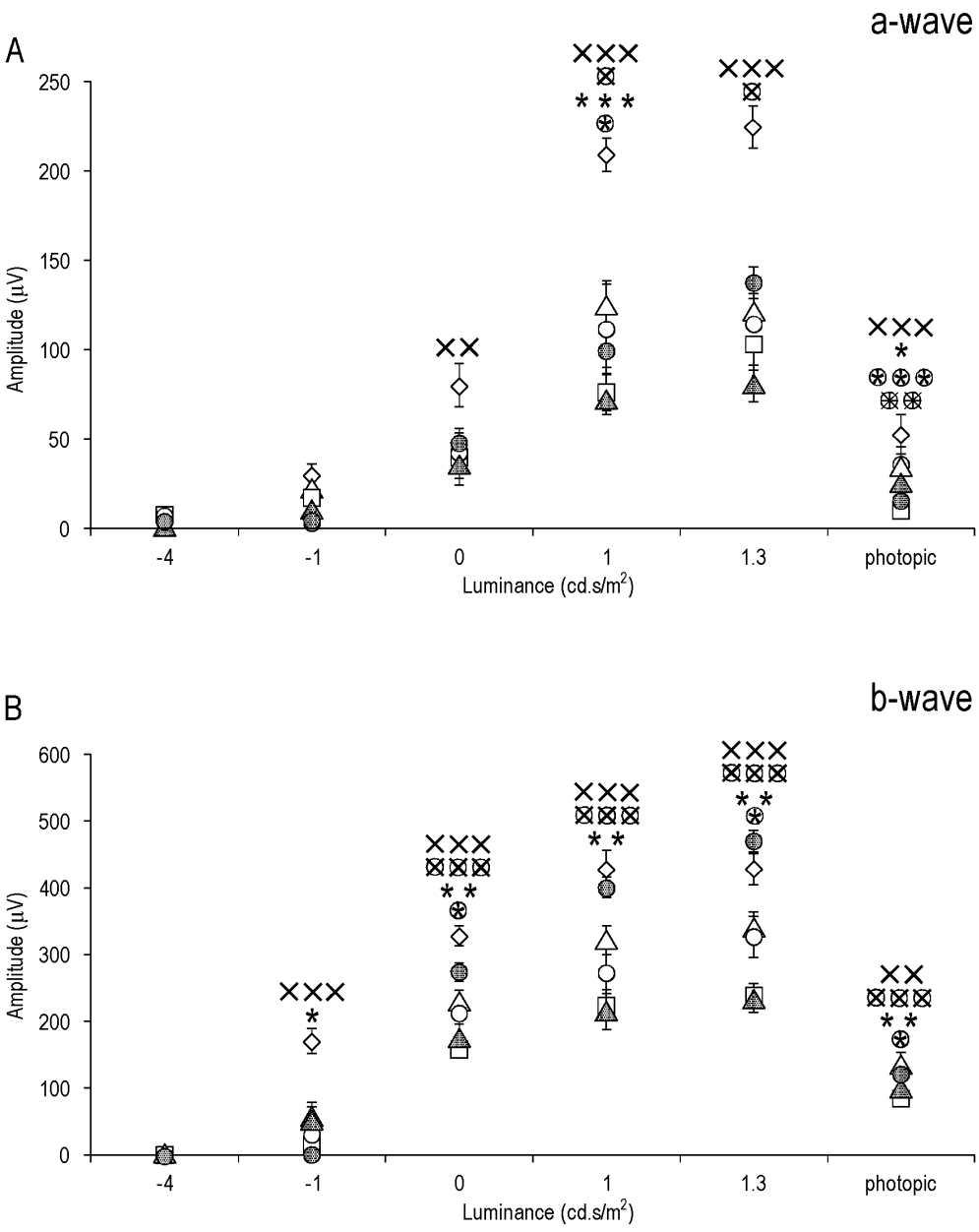

A
a-wave
Amplitude (µV)
250
200
150
100
50
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m²)
B
b-wave
Amplitude (µV)
600
500
400
300
200
100
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m²)
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF 5µg/µl
RHO-P23H BDNF 3,5µg/µl
RHO-P23H BDNF 2µg/µl
RHO-P23H BDNF 1µg/µl

FIG.7

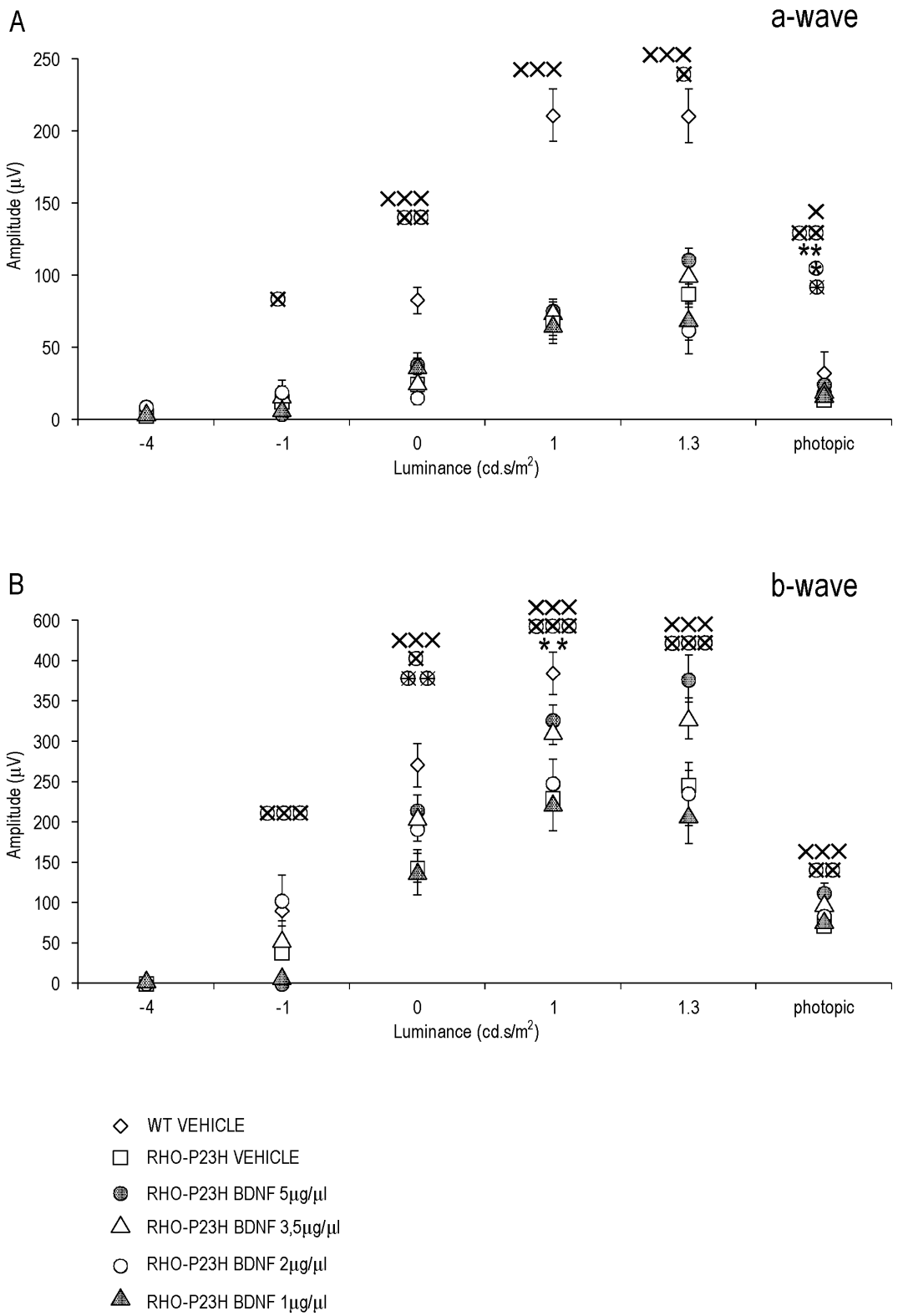
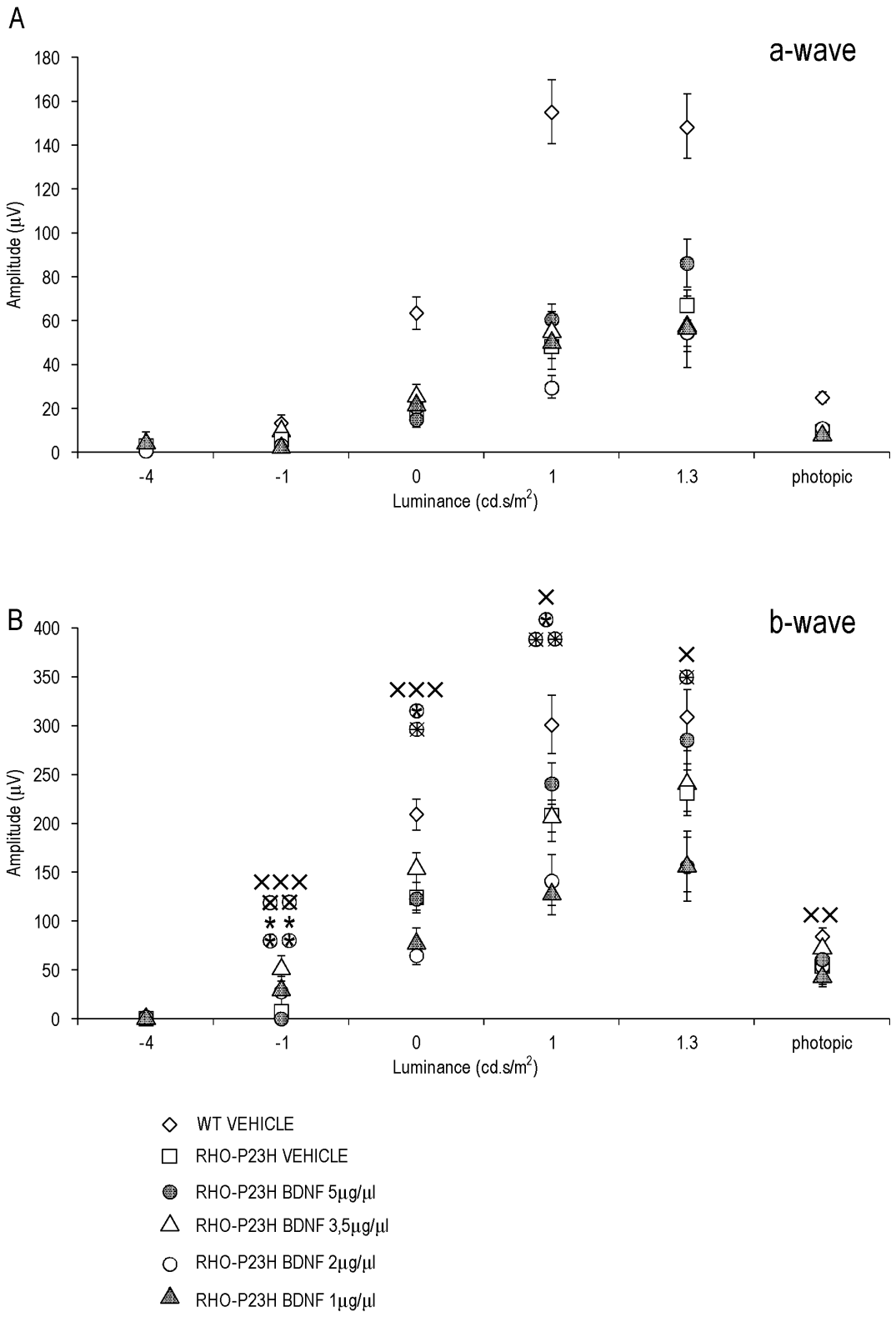

A
a-wave
Amplitude (µV)
250
200
150
100
50
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m2)
B
b-wave
Amplitude (µV)
600
400
350
300
250
200
150
100
50
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m2)
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF 5µg/µl
RHO-P23H BDNF 3,5µg/µl
RHO-P23H BDNF 2µg/µl
RHO-P23H BDNF 1µg/µl

FIG.8


A
a-wave
Amplitude (µV)
180
160
140
120
100
80
60
40
20
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m2)
B
b-wave
Amplitude (µV)
400
350
300
250
200
150
100
50
0
-4
-1
0
1
1.3
photopic
Luminance (cd.s/m2)
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF 5µg/µl
RHO-P23H BDNF 3,5µg/µl
RHO-P23H BDNF 2µg/µl
RHO-P23H BDNF 1µg/µl

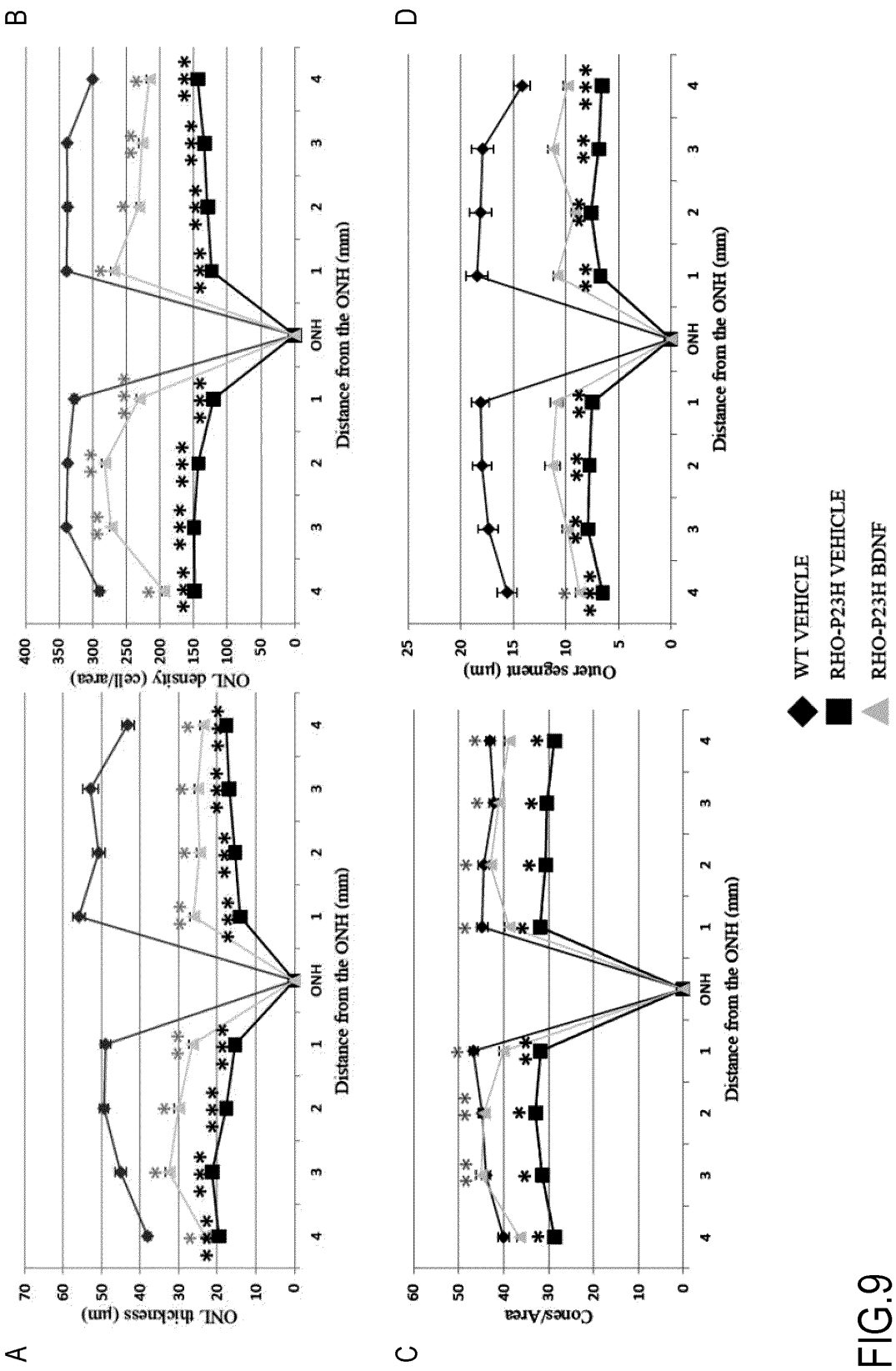

A
ONL thickness (µm)
Distance from the ONH (mm)
B
ONL density (cell/area)
Distance from the ONH (mm)
C
Cones/Area
Distance from the ONH (mm)
D
Outer segment (µm)
Distance from the ONH (mm)
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF

FIG.9

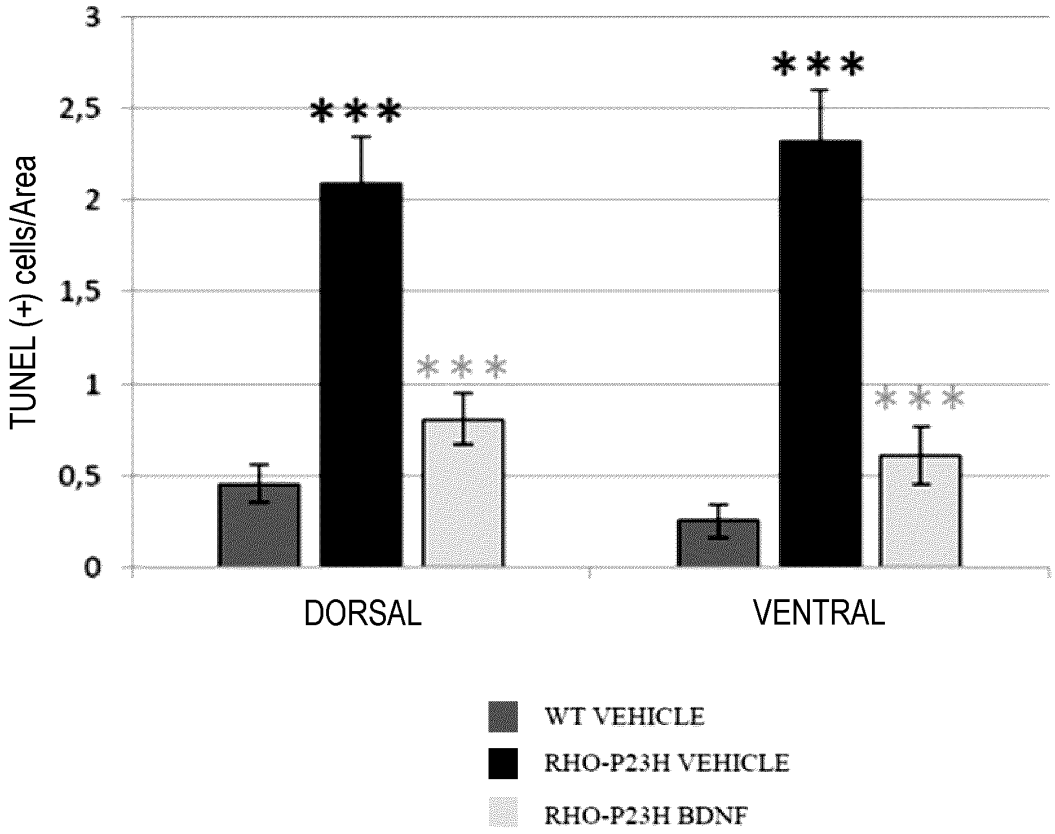
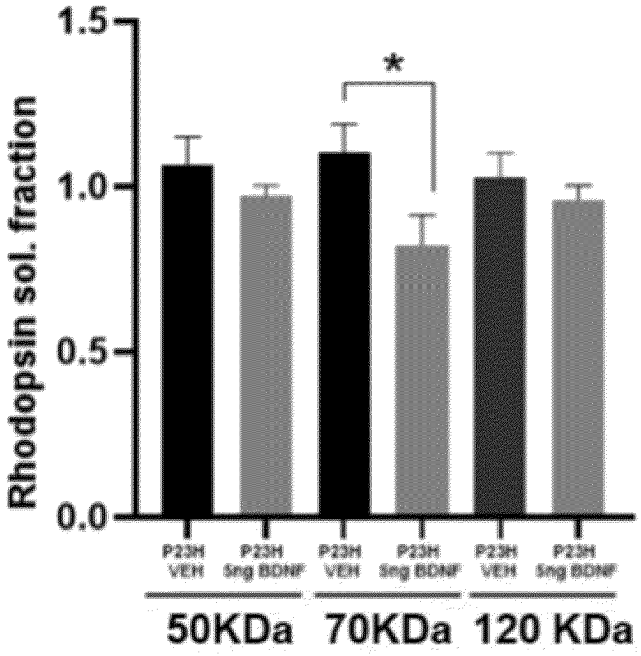

3
2,5
2
1,5
1
0,5
0
TUNEL (+) cells/Area
***
***
***
***
DORSAL
VENTRAL
WT VEHICLE
RHO-P23H VEHICLE
RHO-P23H BDNF

FIG.10

A)


Rhodopsin sol. fraction
1.5
1.0
0.5
0.0
*
P23H VEH
P23H 5ng BDNF
P23H VEH
P23H 5ng BDNF
P23H VEH
P23H 5ng BDNF
50KDa
70KDa
120 KDa

B)

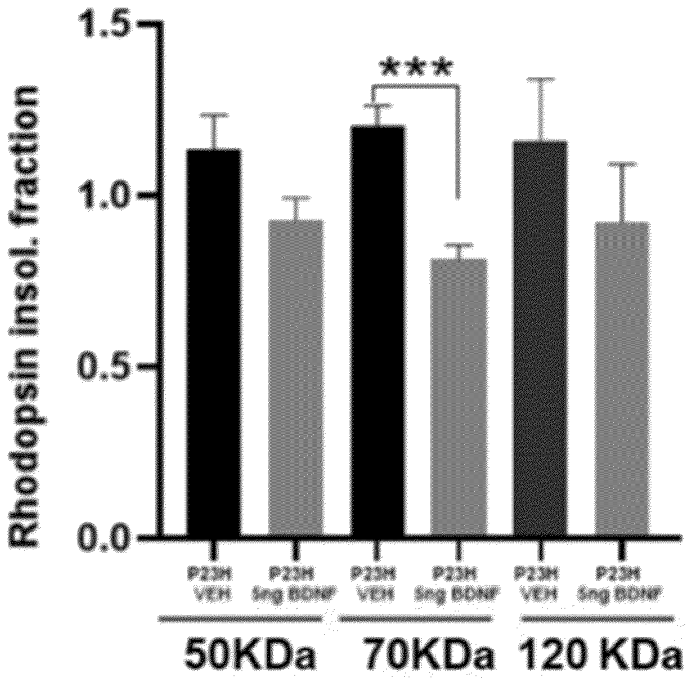

Rhodopsin insol. fraction
1.5
1.0
0.5
0.0
***
P23H VEH
P23H 5ng BDNF
P23H VEH
P23H 5ng BDNF
P23H VEH
P23H 5ng BDNF
50KDa
70KDa
120 KDa

FIG. 11

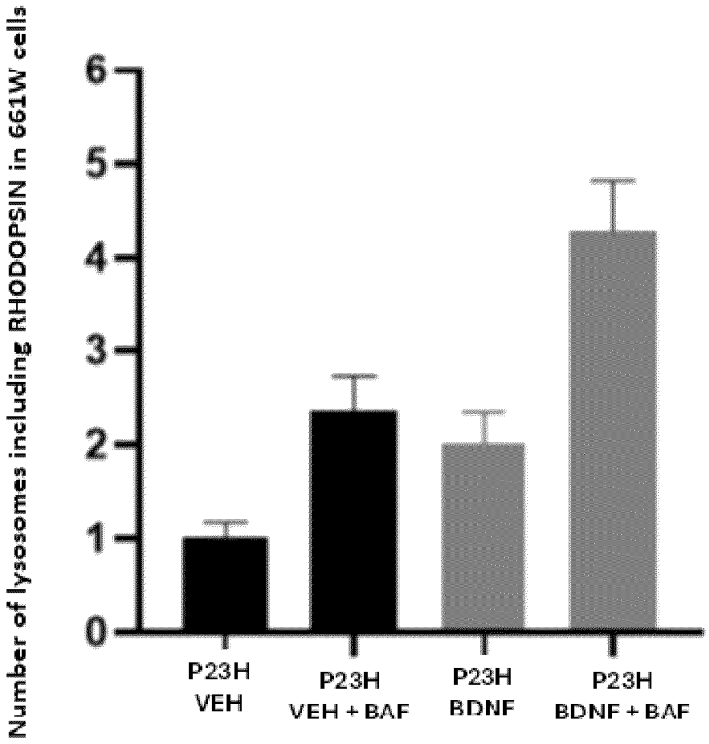

Number of lysosomes including RHODOPSIN in 661W cells
6
5
4
3
2
1
0
P23H VEH
P23H VEH + BAF
P23H BDNF
P23H BDNF + BAF

FIG. 12

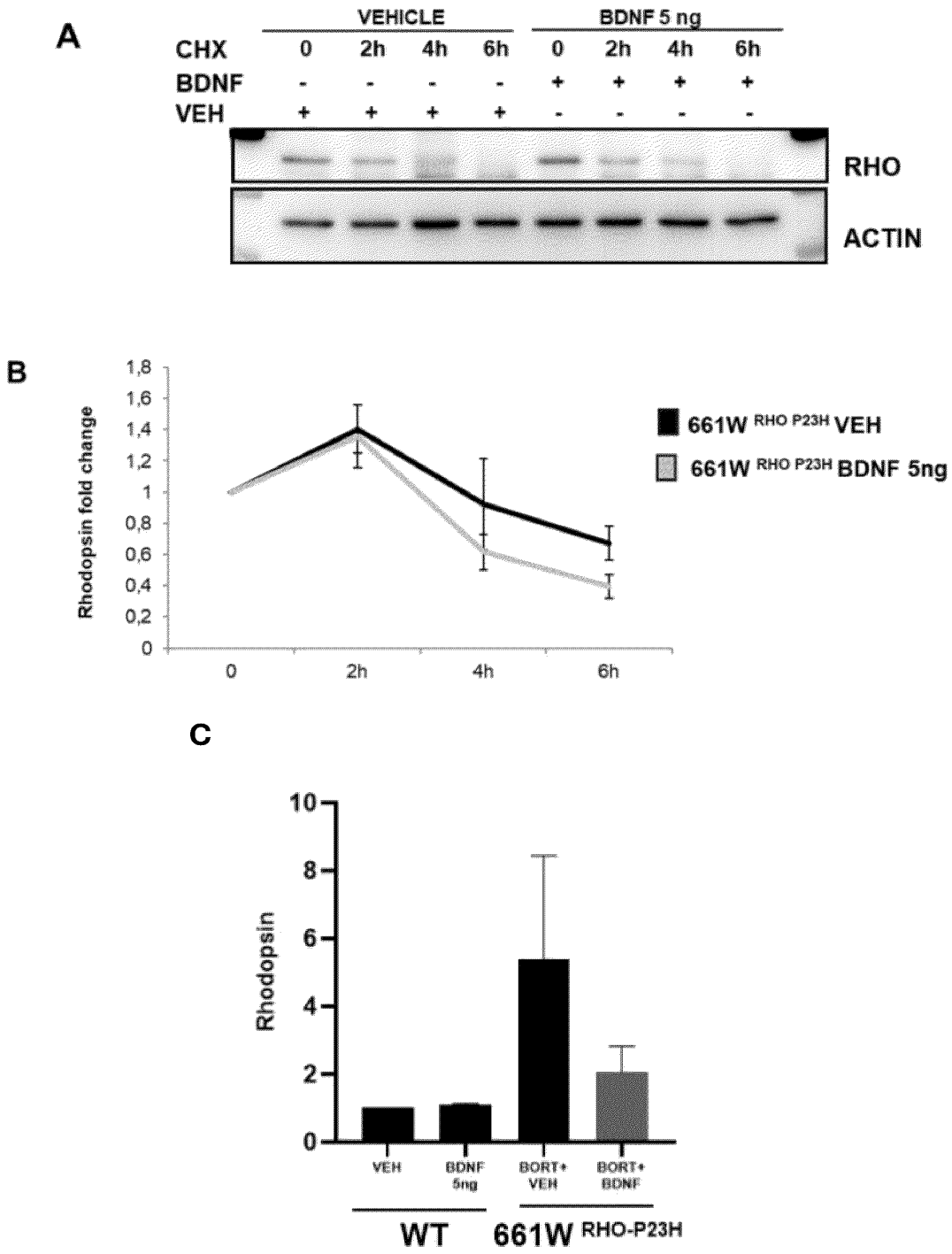

A
VEHICLE
BDNF 5 ng
CHX
0
2h
4h
6h
0
2h
4h
6h
BDNF
-
-
-
-
+
+
+
+
VEH
+
+
+
+
-
-
-
-
RHO
ACTIN
B
Rhodopsin fold change
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
0
2h
4h
6h
661W RHO P23H VEH
661W RHO P23H BDNF 5ng
C
Rhodopsin
10
8
6
4
2
0
VEH
BDNF 5ng
BORT+ VEH
BORT+ BDNF
WT
661W RHO-P23H

FIG. 13