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Variant: NM_000350.3(ABCA4):c.1222C>T (p.Arg408Ter)

Version: 1.0

CA179692

99035 (ClinVar)

Gene: ABCA4 (HGNC:24)
Condition: ABCA4-related retinopathy (MONDO:0800406)
Inheritance Mode: Autosomal recessive inheritance
UUID: 16c0d572-2dcf-41b1-a624-ee0ddbcd77d4
Approved on: 2025/10/28
Published on: 2025/11/14

HGVS expressions

NM_000350.3:c.1222C>T
NM_000350.3(ABCA4):c.1222C>T (p.Arg408Ter)
NC_000001.11:g.94079339G>A
CM000663.2:g.94079339G>A
NC_000001.10:g.94544895G>A
CM000663.1:g.94544895G>A
NC_000001.9:g.94317483G>A
NG_009073.1:g.46811C>T
ENST00000370225.4:c.1222C>T
ENST00000649773.1:c.1222C>T
ENST00000370225.3:c.1222C>T
NM_000350.2:c.1222C>T

Pathogenic

Met criteria codes 3

PM2_Supporting | PVS1 | PS4

Evidence Links 0

Expert Panel

ABCA4 VCEP

Criteria Specification Information

- **Criteria Specification:** *ClinGen ABCA4 Expert Panel Specifications to the ACMG/AMP Variant Interpretation Guidelines for ABCA4 Version 1.0.0*
- **Criteria Specification Approval History**
- **Criteria Specifications for this VCEP**

Evidence submitted by expert panel

ABCA4 VCEP

The NM_000350.3: c.1222C>T; p.Arg408Ter variant in ABCA4 is a nonsense variant predicted to cause a premature stop codon in biologically relevant exon 9 of 50 leading to nonsense mediated decay in a gene in which loss-of-function is an established disease mechanism (PVS1). The total minor allele frequency in gnomAD v4.1.0 is 0.0000167 (27/1613972 alleles), which is lower than the ClinGen ABCA4 VCEP's threshold for PM2_Supporting (<0.0001). This variant was reported in numerous individuals with ABCA4-related retinopathy (PMID: 140709597, 23755871, 30060493, 30771335, 32619608, 33301772, 33369172). The prevalence of the variant in affected individuals is significantly increased compared with the prevalence in controls. The odds ratio is 111.5 and the confidence interval (CI) is 34.41 to

571.57, which is above the ABCA4 VCEP threshold of ≥5, where the CI does not contain 1 (PS4; PMID: 35120629). In summary, this variant meets the criteria to be classified as pathogenic for ABCA4-related retinopathy based on the ACMG/AMP criteria applied, as specified by the ClinGen ABCA4 VCEP (Specification Version 1.0.0): PVS1, PS4, PM2_Supporting.

Met criteria codes

PM2_Supporting	✔	The total minor allele frequency in gnomAD v4.1.0 is 0.0000167 (27/1613972 alleles), which is lower than the ClinGen ABCA4 VCEP's threshold for PM2_Supporting (<0.0001), meeting this criterion (PM2_Supporting).
PVS1	✔	This is a nonsense variant located in exon 9 out of 50, and introduces a premature stop codon between codons 1-2255 (PVS1).
PS4	✔	The prevalence of the variant in affected individuals is significantly increased compared with the prevalence in controls. The OR is 111.5 and the CI is 34.41 to 571.57, which is above the ABCA4 VCEP threshold of ≥5, where the CI does not contain 1 (PS4; PMID: 35120629).

Curation History

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