The ClinGen Evidence Repository is an **FDA-recognized human genetic variant database** containing expert-curated assertions regarding variants' pathogenicity and supporting evidence summaries. [Disclaimer]

Variant: NM_000314.8(PTEN):c.115G>A (p.Ala39Thr)

Version: 1.0

CA377784502

1506231 (ClinVar)

Gene: PTEN (HGNC:5728)
Condition: PTEN hamartoma tumor syndrome (MONDO:0017623)
Inheritance Mode: Autosomal dominant inheritance
UUID: be7cd53a-0b7f-4032-88b3-bfb8fb0b1065
Approved on: 2026/5/20
Published on: 2026/6/8

HGVS expressions

NM_000314.8(PTEN):c.115G>A (p.Ala39Thr)
NM_000314.8:c.115G>A
NC_000010.11:g.87894060G>A
CM000672.2:g.87894060G>A
NC_000010.10:g.89653817G>A
CM000672.1:g.89653817G>A
NC_000010.9:g.89643797G>A
NG_007466.2:g.35622G>A
ENST00000700029.2:c.115G>A
ENST00000710265.1:c.115G>A
ENST00000472832.3:c.115G>A
ENST00000688158.2:n.899+13622G>A
ENST00000688922.2:c.115G>A
ENST00000700021.1:c.115G>A
ENST00000700022.1:c.115G>A
ENST00000706954.1:c.115G>A
ENST00000706955.1:c.*150G>A
ENST00000686459.1:c.115G>A
ENST00000688158.1:c.*275+13622G>A
ENST00000688308.1:c.115G>A
ENST00000693560.1:c.634G>A
ENST00000371953.8:c.115G>A
ENST00000371953.7:c.115G>A
ENST00000462694.1:n.117G>A
ENST00000610634.1:c.13G>A
NM_000314.5:c.115G>A
NM_000314.6:c.115G>A
NM_001304717.2:c.634G>A
NM_001304718.1:c.-591G>A
NM_000314.7:c.115G>A
NM_001304717.5:c.634G>A
NM_001304718.2:c.-591G>A

Likely Pathogenic

Met criteria codes 6

PS3_Moderate | PM2_Supporting | PS4_Supporting | PM5 | PP2 | PP3

Evidence Links 0

Expert Panel

PTEN VCEP

Criteria Specification Information

- **Criteria Specification:** *ClinGen PTEN Expert Panel Specifications to the ACMG/AMP Variant Interpretation Guidelines for PTEN Version 3.1.0*
- **Criteria Specification Approval History**
- **Criteria Specifications for this VCEP**

Evidence submitted by expert panel

PTEN VCEP

PTEN c.115G>A (p.Ala39Thr) meets criteria to be classified as Likely pathogenic for PTEN Hamartoma Tumor syndrome in an autosomal dominant manner using modified ACMG criteria (ACMG Classification Rules Specified for PTEN Variant Curation version 3.1.0). Please see a summary of the rules and criteria codes in the "PTEN ACMG Specifications Summary" document (assertion method column). PM5: Missense change at an amino acid residue where a different missense change determined to be pathogenic or likely pathogenic and with equal or lesser BLOSUM62 score has been seen before (ClinVar Variation ID 2022313). PS3_M: Phosphatase activity <50% of wild type OR RNA, mini-gene, or other assay shows impact on splicing. (PMID 29706350) PP2: PTEN is defined by the PTEN Expert Panel as a gene that has a low rate of benign missense variation and where missense variants are a common mechanism of disease. PP3: REVEL score > 0.7 (score of this variant =0.85) PM2_Supporting: Absent in large sequenced populations OR present at extremely low (<0.00001, 0.001%) allele frequency in the gnomAD cohort. (PMID 27535533). PS4_Supporting: Proband(s) with phenotype specificity score of 1-1.5. (PMID 32003824, internal laboratory contributor(s))

Met criteria codes

PS3_Moderate ✔	Functional studies supportive of a damaging effect on the gene or gene product. Score of this variant = -1.138449621 (≤ -1.11) on a high throughput phosphatase assay (PMID:29706350).
PM2_Supporting ✔	Absent in large sequenced populations OR present at extremely low (<0.00001, 0.001%) allele frequency in the gnomAD cohort. (PMID 27535533).
PS4_Supporting ✔	Proband(s) with phenotype specificity score of 1-1.5. (PMID 32003824, internal laboratory contributor(s))
PM5 ✔	p.Ala39Val classified as LP by PTEN VCEP. BLOSSUM score of Ala to Val and Ala to Thr is equal (=0), however this rule may be applied when the known variant is likely pathogenic unless applying would lead to a higher (pathogenic) classification for the variant being assessed.
PP2 ✔	Missense variant in a gene that has a low rate of benign missense variation and where missense variants are a common mechanism of disease.
PP3 ✔	In silico model predicts a splicing impact (REVEL score = 0.85).

Curation History

Showing 1 to 1 of 1 rows

The information on this website is not intended for direct diagnostic use or medical decision-making without review by a genetics professional. Individuals should not change their health behavior solely on the basis of information contained on this website. If you have questions about the information contained on this website, please see a health care professional.

ClinGen Terms of Use.
⌑ Powered by BCM's Genboree.