

Variant: NM_000314.6(PTEN):c.841C>G (p.Pro281Ala)

Version: 1.1

CA000211 [↗](#)

184466 (ClinVar) [↗](#)

Gene: PTEN ([HGNC:5728](#))

Condition: PTEN hamartoma tumor syndrome ([MONDO:0017623](#))

Inheritance Mode: Autosomal dominant inheritance

UID: 74ec7748-2294-4f8c-a299-53b2a9c51d35

Approved on: 2023-10-11

Published on: 2023-10-18

HGVS expressions

NM_000314.6:c.841C>G

NM_000314.6(PTEN):c.841C>G (p.Pro281Ala)

NC_000010.11:g.87960933C>G

CM000672.2:g.87960933C>G

NC_000010.10:g.89720690C>G

CM000672.1:g.89720690C>G

NC_000010.9:g.89710670C>G

NG_007466.2:g.102495C>G

ENST00000700029.2:c.934C>G

ENST00000710265.1:c.841C>G

ENST00000472832.3:c.841C>G

ENST00000688158.2:n.1576C>G

ENST00000688922.2:c.*671C>G

ENST00000700021.1:c.796C>G

ENST00000700022.1:c.*180C>G

ENST00000700023.1:n.1999C>G

ENST00000700024.1:n.2233C>G

ENST00000700025.1:n.1610C>G

ENST00000700026.1:n.478C>G

ENST00000700029.1:c.768C>G

ENST00000706954.1:c.841C>G

ENST00000706955.1:c.*876C>G

ENST00000686459.1:c.*427C>G

ENST00000688158.1:c.*952C>G

ENST00000688308.1:c.841C>G

ENST00000688922.1:c.762C>G

ENST00000693560.1:c.1360C>G

ENST00000371953.8:c.841C>G

ENST00000371953.7:c.841C>G

ENST00000472832.2:c.268C>G

NM_000314.5:c.841C>G

NM_001304717.2:c.1360C>G

NM_001304718.1:c.250C>G

NM_000314.7:c.841C>G

NM_001304717.5:c.1360C>G

NM_001304718.2:c.250C>G

NM_000314.8:c.841C>G

Uncertain Significance

Met criteria codes **2**

PP2 PM2_Supporting

Not Met criteria codes **24**

PS1 PS2 PS3 PS4 PVS1
PP1 PP3 PP4 PM6 PM1
PM3 PM5 PM4 BA1 BS1
BS4 BS3 BS2 BP5 BP7 BP4
BP3 BP1 BP2

Evidence Links **3**

Expert Panel

PTEN VCEP [↗](#)

Criteria Specification Information

- [Criteria Specification: ClinGen PTEN Expert Panel Specifications to the ACMG/AMP Variant Interpretation Guidelines for PTEN Version 3.0.0](#)
- [Criteria Specification Approval History](#)
- [Criteria Specifications for this VCEP](#)

Evidence submitted by expert panel

PTEN VCEP

NM_000314.8(PTEN):c.841C>G (p.Pro281Ala) is currently classified as a variant of uncertain significance for PTEN Hamartoma Tumor syndrome in an autosomal dominant manner using modified ACMG criteria (PMID 30311380). Please see a summary of the rules and criteria codes in the “PTEN ACMG Specifications Summary” document (assertion method column). PM2: Absent in large sequenced populations (PMID 27535533). 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.



























Met criteria codes











- | | | | |
|-----------------------|-------------------|---|--|
| PP2 | i | ✓ | 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. |
| PM2_Supporting | i | ✓ | Absent in gnomAD |

Not Met criteria codes

- | | | | |
|------------|-------------------|---|---|
| PS1 | i | ✗ | No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline |
| PS2 | i | ✗ | No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline |
| PS3 | i | ✗ | Variant showed WT-like protein stability (score = 1.37) but only 2 experimental replicates. PubMed:29785012 ↗
Phosphatase activity at low end of WT-like range (-1.03, hypomorphic starts at -1.11). PubMed:29706350 ↗ |
| PS4 | i | ✗ | 1 internal case from Charis Eng's lab: female age 49, consented age 47 CC Score: 1; OFC: 53.25 cm; Normal Head Size; Thyroid Nodule; Fibrocystic Breast Disease; Uterine Fibroids; Family: none; Other genotypes: none. Does not meet criteria for PS4, PS4_moderate, or PS4_supporting. |

Variant identified in a pt with pancreatic cancer; no other info provided. [PubMed:29945567](#)

PVS1			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
PP1			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
PP3			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
PP4			See PS4
PM6			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
PM1			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
PM3			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
PM5			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
PM4			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BA1			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BS1			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BS4			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BS3			Mighell et al. 2018 PMID: 29706350: Lipid phosphatase activity score, -1.03673832 (FALSE) Matreyek et al. 2018 PMID: 29785012: abundance_class is WT-like. <hr/> <p>Variant showed WT-like protein stability (score = 1.37) but only 2 experimental replicates. PubMed:29785012 Phosphatase activity at low end of WT-like range (-1.03, hypomorphic starts at -1.11). PubMed:29706350</p>
BS2			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline

BP5			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BP7			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BP4			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BP3			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BP1			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline
BP2			No code specific comments provided, please refer to the summary above or general recommendations provided in the guideline

Curation History [↗](#)





Showing 1 to 2 of 2 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.