PP4 Patient's phenotype or family history is highly specific for a disease with a single genetic etiology.

- PP4 applicability and strength is determined by the total points accumulated by a single affected individual according to the table below and the following total point ranges:
  - <1 point: PP4 not met
  - 1-<2 points: PP4
  - ≥2 -<7 points: PP4_Moderate
  - ≥8 points: PP4_Strong[1]

[1]CNV (Copy number variation) testing is required to consider PP4_Strong in order to certify that the variant in question is the causative for the phenotype, and not one CNV event corrected by gene therapy and not identified previously.

Evidence Description	Points
Diagnostic criteria for SCID/Leaky SCID/Omenn syndrome met[2]	0.5
SCID gene panel or exome/genome sequencing conducted (only applicable if genetic testing did not provide an alternative genetic explanation for SCID/Leaky SCID/Omenn syndrome phenotype)	1
Family history of SCID (only applicable if SCID gene panel or exome/genome sequencing was conducted on proband and did not provide an alternative genetic explanation for phenotype)	0.5
XY male sex	0.5
Absent CD132 expression (demonstrated by RT-PCR, Western blot, flow cytometry)	1
Reduced IL2-induced phosphorylation of STAT5 in patient-derived T-cells	1
Reduced IL21-induced phosphorylation of STAT3 in total lymphocyte or B cells	1
SCID phenotype corrected by IL2RG gene therapy **WITHOUT** CNV testing performed	1
SCID phenotype corrected by IL2RG gene therapy **WITH** CNV testing performed	8
T-B+NK- lymphocyte subset profile* (See notes)	0.5

[2]The diagnostic criteria should follow the PIDTC 2022 specification, summarized here.

*Notes: 1) If NK cells are not noted or are present, criteria may still be applied if SCID gene panel or exome/genome sequencing has ruled out alternative causes; 2) If maternal T cells are present, the T lymphocyte profile is still considered to be T- (autologous T cells are absent).