

Improvements in blood phenylalanine and health-related quality of life outcomes among adults with PKU receiving pegvaliase in the OPAL study

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Genetics in Medicine Open. 2025. 102846.

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OPAL study

Ongoing, Phase 4, multicentre, observational study of real-world safety and efficacy of pegvaliase



Methods

Second interim analysis of OPAL:

- Impact of pegvaliase treatment on blood Phe levels
- Health-related quality of life



Results

- Pegvaliase demonstrated real-world, improved HRQoL
- Pegvaliase demonstrated clinically meaningful reductions in blood Phe over 96 weeks



Conclusions

Pegvaliase demonstrated month-on-month:

- Reductions in blood Phe levels
- Improvements in patient quality of life



HRQoL, health-related quality of life; Phe, phenylalanine; PKU, phenylketonuria.

Treatments mentioned in this document may not be approved for use in your country. Please consult local licensing authorities for further information. In the EU/European Economic Area, PALYNZIQ[®] (pegvaliase) is indicated for the treatment of patients with phenylketonuria (PKU) aged 16 years and older who have inadequate blood phenylalanine control (blood phenylalanine levels greater than 600 µmol/L) despite prior management with available treatment options. Pegvaliase indications and prescribing information are listed at the end of this document. Some links in this document are "external links" to websites over which BioMarin has no control and for which BioMarin assumes no responsibility. This publication summary has been developed and funded by BioMarin. ©2026 BioMarin International Ltd. All Rights Reserved. For healthcare professionals only. COM-ET-0862. Date of preparation: March 2026.



Background



Many PKU patients struggle to maintain recommended blood Phe levels, impacting their QoL^{1,2}



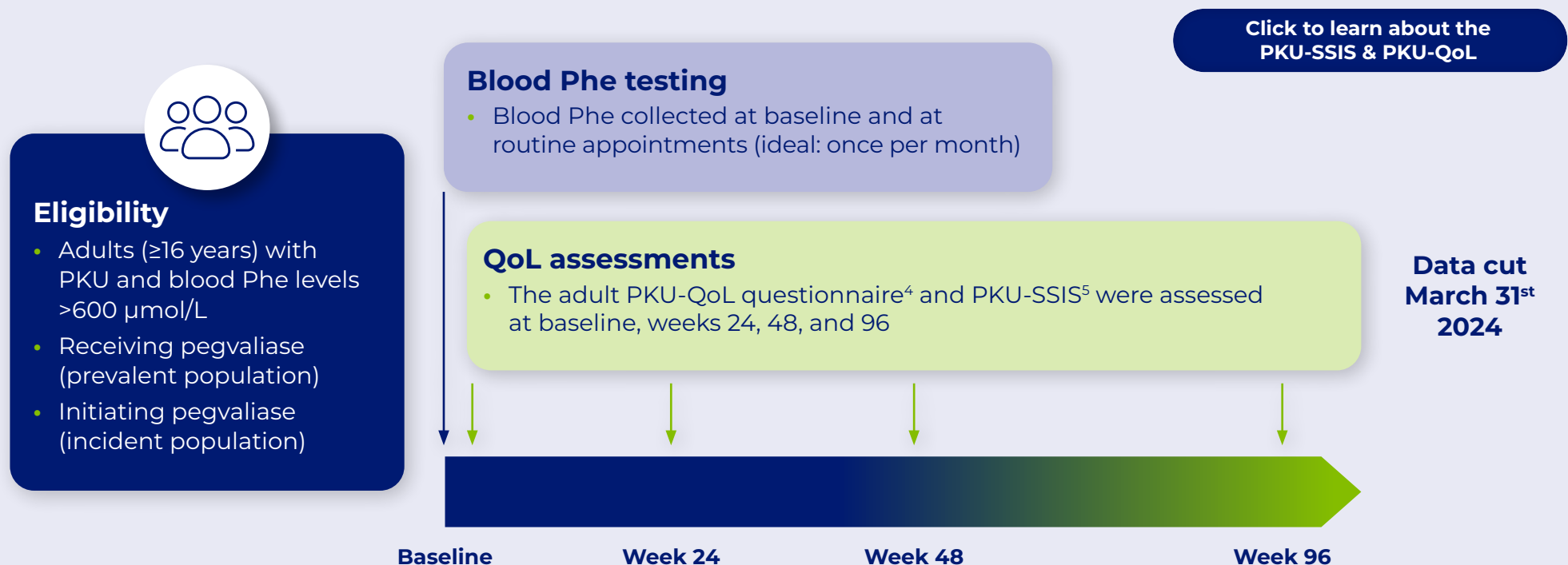
Pegvaliase is a blood Phe-lowering enzyme substitution therapy for adults (US) or patients aged ≥ 16 years (Europe) with PKU and Phe $>600 \mu\text{mol/L}$ ¹⁻³



OPAL is an ongoing, Phase 4, multicentre, observational study assessing the real-world safety and efficacy of pegvaliase in adults with PKU from the US, Germany and Italy. These results are from a second interim analysis



OPAL study criteria and methods



The OPAL modified full analysis set included participants who had a baseline Phe and screening/pre-study HRQoL assessments at enrollment and completed ≥24 weeks of the study at the time of the data cut (March 31, 2024).

Phe, phenylalanine; PKU, phenylketonuria; PKU-QoL, PKU Quality of Life; PKU-SSIS, PKU Symptom Severity and Impacts Scale⁵; QoL, quality of life.



Overview of PKU-SSIS and PKU-QoL assessments



Psychometric
validation ongoing

PKU-SSIS⁶

The PKU-SSIS is a 22-item scale that provides a holistic view of the impact of PKU on patients' emotional, cognitive, and physical well-being

Domains

Domains include emotional, cognitive, behavioural, physical functioning, general well-being, and self-care

Usage

Used in clinic, prospective studies and surveys, and BioMarin's clinical trials



Validated

PKU-QoL⁷⁻⁹

The PKU-QoL measures aspects of disease burden and quality of life outcomes across domains relevant to PKU with higher domain scores indicating greater impact

Domains

Symptoms of PKU, PKU in general, administration of Phe-free protein supplements, and dietary protein restriction

Usage

Clinical practice, academia, and clinical trials (including BioMarin's clinical trials)



Study population and demographics

Prevalent population
(n=22)

Incident population
(n=29)



N=51
Overall
population

- 76 participants (48 incident, 28 prevalent) enrolled at the time of the interim data cut
- 51 participants (29 incident, 22 prevalent) included in the modified full analysis set (median duration of treatment [weeks]: 87.1 incident, 109.0 prevalent)
- Nine (11.8%) participants discontinued pegvaliase (treatment stopped, n=4; physician decision, n=1; withdrawal by participant, n=4)

Study participants in numbers

Mean age:

29.3
years

58.8%
male

92.2%
White



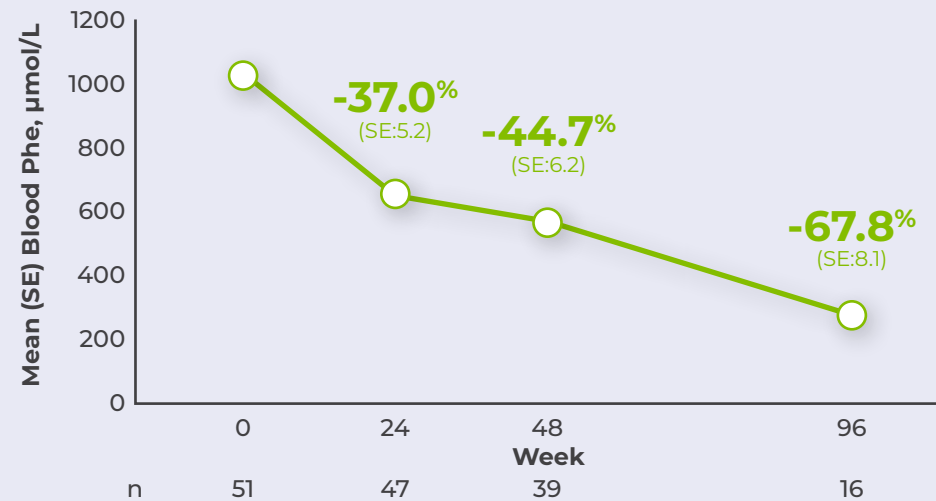


Blood Phe decreases with pegvaliase treatment



Blood Phe levels declined throughout the study

At Week 96, mean blood Phe in the overall population was reduced by almost 70% compared with baseline



Reductions in blood Phe levels in participants treated with pegvaliase were consistent with the Phase 3 PRISM clinical trial programme

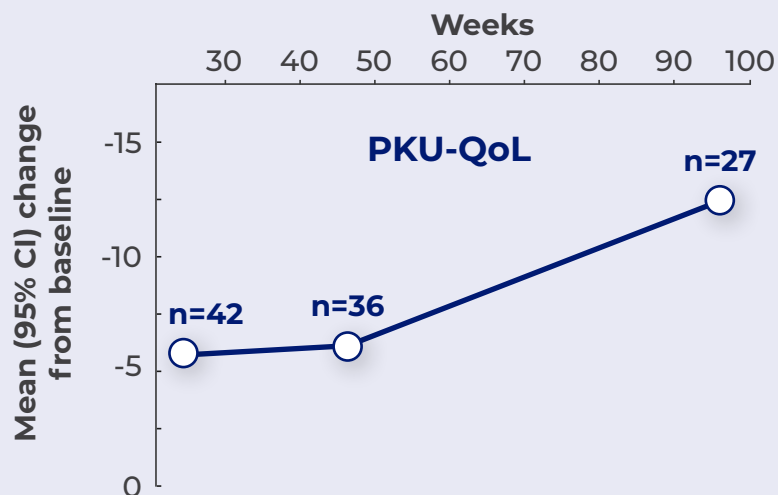
Phe, phenylalanine; SE, standard error.

Adapted from McNutt M, et al. Genetics in Medicine Open. 2025. 102846.

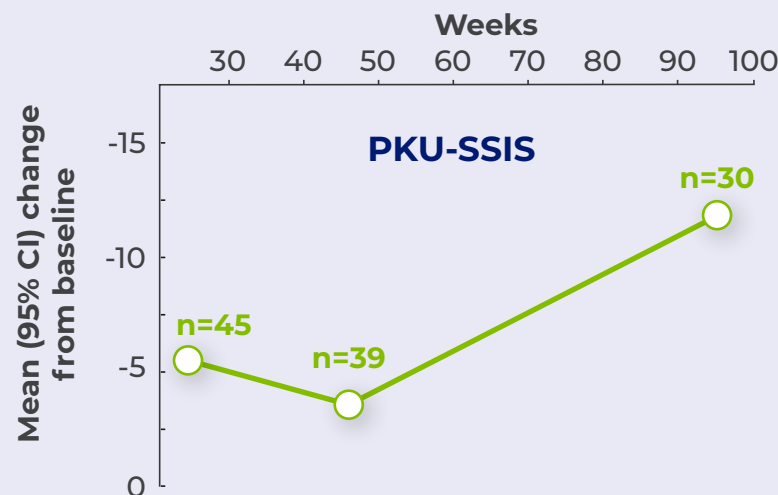


Real-world data demonstrated pegvaliase treatment improved HRQoL

Click to learn about the
PKU-SSIS & PKU-QoL



At Week 96, **PKU-QoL scores improved**, with mean change of -12.4 from a mean (SD) baseline of 29.0 (16.7)



At Week 96, **PKU-SSIS scores improved**, with mean change of -11.8 from a mean (SD) baseline of 31.8 (16.4)





First real-world data shows the positive impact of pegvaliase treatment on PKU



Lowered blood Phe levels

consistent with Phase 3 PRISM clinical trial¹⁰



Higher patient-reported quality of life outcomes

(improvements in PKU-QoL and PKU-SSIS scores)

**Final results from the
OPAL study will further
advance the understanding
of the impact of pegvaliase
treatment in routine
clinical practice**



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Indications and prescribing information per region

Australia: PALYNZIQ[®] is indicated for the treatment of patients with PKU aged 16 years and older who have inadequate blood Phe control despite prior management with available treatment options. The Australian product information can be found [here](#).

Europe: PALYNZIQ[®] (pegvaliase) is indicated for the treatment of patients with PKU aged 16 years and older who have inadequate blood phenylalanine control (blood phenylalanine levels greater than 600 µmol/L) despite prior management with available treatment options. The latest SmPC can be found on the PKU.expert website or click [here](#) for the SmPC.

Canada: PALYNZIQ[®] (pegvaliase injection) is indicated to reduce blood Phe concentrations in patients with PKU aged 16 years and older who have inadequate blood Phe control (blood Phe levels greater than 600 µmol/L) despite dietary management. The product monograph can be found [here](#).

Japan: PALYNZIQ[®] (pegvaliase) is indicated for the treatment of adult patients with PKU. The prescribing information can be found [here](#).

Brazil: PALYNZIQ[®] is indicated for the treatment of patients with PKU from 16 years of age with inadequate control of phenylalanine in the blood (phenylalanine levels in the blood greater than 600 µmol/L [10.0 mg/dL]) with existing treatment. The prescribing information can be found [here](#).

Scan for prescribing information

Australia



Europe



Canada



Japan



Brazil

