HUMAN HEALTH

ENVIRONMENTAL HEALTH

AUTOMATED PHENYLALANINE ENZYME ASSAY

Screening for Phenylketonuria

Phenylketonuria (PKU) is a disorder of amino acid metabolism with reported incidence ranging from 1 in 19,000 to 1 in 13,500 newborn infants*. It is caused by an inability to convert phenylalanine to tyrosine due to deficient activity of the enzyme, phenylalanine hydroxylase. As a result, excessive amounts of phenylalanine and toxic metabolites accumulate, harming brain development. The symptoms can be clearly reduced with a diet low in phenylalanine, and early detection is critical in starting the treatment and ensuring normal brain development.

GSP® Neonatal Phenylalanine - the automated enzymatic assay

The GSP® Neonatal Phenylalanine (Phe) kit is intended for the quantitative determination of phenylalanine concentrations in blood specimens dried on filter paper as an aid in screening newborns for phenylketonuria by using the GSP instrument.

- Automated assay
- Incubation time only 2 x 1h
- Improved precision and performance compared to manual assays
- 1152 tests (12 plates) or 5760 tests (60 plates) product versions
- Clear U-bottomed microplates are ordered separately in a bulk pack of 100
- Calibrators and controls are in cassette format

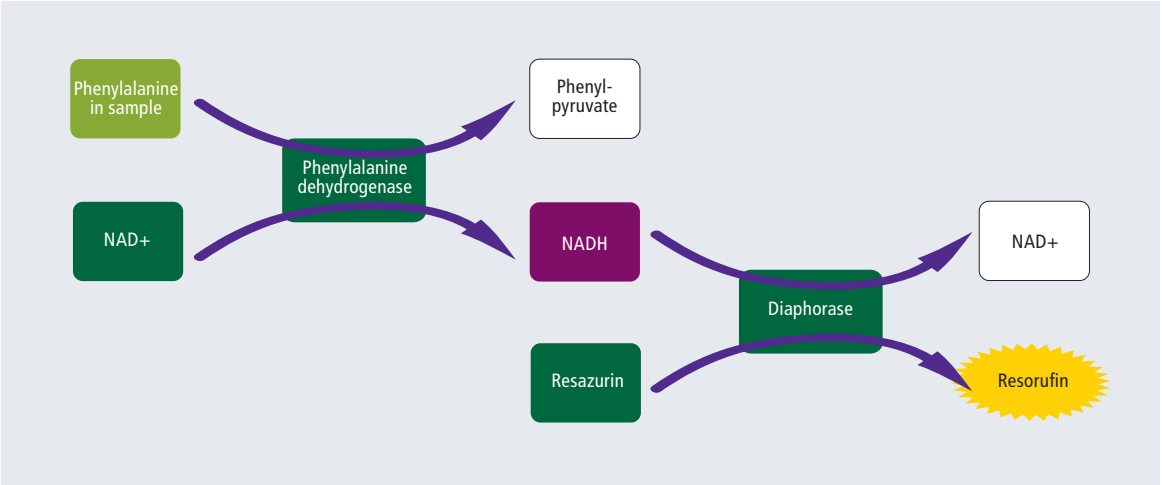
* Kaye CI. and the Committee on Genetics (2006) Newborn Screening Fact Sheets. Pediatrics 118 (3).

Not for distribution in the USA

PerkinElmer®
For the Better

Principle of the GSP® Neonatal Phe assay

In the first reaction of GSP Neonatal Phenylalanine assay, phenylalanine dehydrogenase converts phenylalanine to phenylpyruvate, generating a stoichiometric amount of NADH. In the presence of NADH, resazurin dye is reduced to fluorescent resorufin in a diaphorase catalyzed reaction. Resorufin fluorescence is read using an excitation wavelength of 505 nm and an emission wavelength of 580 nm. This method quantitatively measures the phenylalanine present in the sample.



For use with the GSP® instrument

GSP is the new generation automated neonatal screening instrument from PerkinElmer. It has multi-technology capability, which means that both DELFIA® and prompt fluorescence assays can be run on a common platform. Its versatility and speed help it to accommodate present and future screening needs.

All PerkinElmer neonatal products may not be available in all countries.

ORDERING INFORMATION

3308-0010	GSP Neonatal Phenylalanine (outside USA), reagents for 12 plates
3308-001B	GSP Neonatal Phenylalanine (outside USA), reagents for 60 plates
4091-0010	Clear U-bottomed microplates for GSP Neonatal Phe kit (100 plates)

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