Newborn screening of Adrenal Hyperplasia

Enzyme immunoassays with fluorometric & photometric detection for the determination of human 17-OH-progesterone from blood specimens dried on filter paper

- Competitive assay
- Excellent reproducibility
- High sensitivity with high signal/background ratio
- Easy adaptation to existing screening systems
Neonatal 17-OHP FEIA

Easy and reliable screening for CAH

Congenital Adrenal Hyperplasia (CAH)

Congenital Adrenal Hyperplasia (CAH) includes a group of disorders in which the cortisol production by adrenals is lowered. There are several different forms of CAH, each related to one of the enzymes necessary to transform precursors to cortisol. When one of these enzymes is deficient, this leads to a hyperfunction and increased size (hyperplasia) of the adrenals, hence the name Congenital Adrenal Hyperplasia.

Among the various forms of CAH, the 21-hydroxylase deficiency is by far the most frequent, representing more than 90% of all cases. 21-hydroxylase deficiency results in high level of circulating 17-hydroxyprogesterone. Various mutations of the 21-hydroxylase gene result in various degrees of CAH severity.

CAH cannot be cured, but it can be effectively treated by steroid substitution therapy if detected in early stage of life and disease course. Labsystems Diagnostics’ Neonatal 17-OH-Progesterone FEIA test allows quantification of 17-hydroxy-progesterone in dried blood spot samples.

Assay Procedure
1. Punch out 3 mm disks from blood calibrators and controls (in duplicates) as well as from patient specimens (single) into the microtiter plate.
2. Add 200 μl of anti-17OHPHRP conjugate. Make sure that the discs are properly soaked.
3. Cover the plate and incubate 1 hour at RT in dark with shaking and then overnight at +4° C without shaking.
4. Remove disks, wash 4 x 300 μl.
5. Add 200 μl of substrate solution.
6. Incubate 60 min at +4°C in the dark.
7. Add 100 μl of stop solution.
8. Measure fluorescence at ex. 320, em. 405 nm.

Neonatal 17-OHP FEIA calibration curve

<table>
<thead>
<tr>
<th>Cat.no.</th>
<th>Product name</th>
<th>Plate type</th>
<th>Packing size</th>
<th>Regulatory status</th>
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<td>6199870</td>
<td>Neonatal 17-OH-Progesterone FEIA</td>
<td>12x8 strip</td>
<td>480 wells</td>
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Type 903 filter paper is used in all products.

*Please note: Product specifications are subject to change without prior notice owing to product modifications, improvements / up-gradation.