

Vitamin analysis

Biotin – an underestimated essential vitamin

- Quantitative ELISA
- Validated for automated systems
- Additional quality controls



Biotin – more than a beauty vitamin

Biotin plays a central role in various critical reactions in the metabolism of carbohydrates, fatty acids and proteins.¹

A daily ingested amount of 30 - 100 µg of biotin for adults is considered sufficient by both the Deutsche Gesellschaft für Ernährung (DGE) and the American Recommended Dietary Allowances (RDA).

Normally, the recommended amount is being covered by a balanced and varied diet. However, special circumstances and diseases can lead to clinical signs of a biotin deficiency ranging from mild to severe symptoms and demonstrating the need for biotin measurements in biological samples.²

Causes of biotin deficiency

- Pregnancy
- Malnutrition
- Intestinal disorders
- Inborn errors of biotin metabolism
- Kidney malfunction
- Long-term therapy with anticonvulsants

Symptoms of biotin deficiency

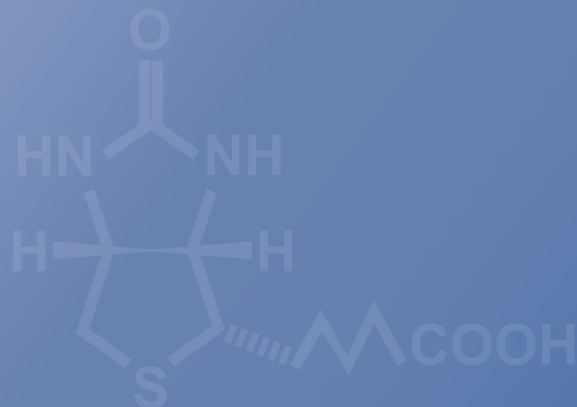
- Dermatological abnormalities
- Hair loss, brittle nails
- Anorexia and nausea
- Mental disorder
- Lasting fatigue
- Developmental delay

Examples of causes and symptoms of biotin deficiency¹



Did you know that...

...up to 50 % of pregnant women may be deficient in biotin, a deficiency that may increase the risk of birth defects.³



References:

- ¹ Mock DM. Biotin.in: Modern Nutrition in Health and Disease. 11th ed. Lippincott Williams & Wilkins; 2012
- ² Hansen SI, Holm J. Quantification of biotin in serum by competition with solid-phase biotin for binding to peroxidase-avidin conjugate. Clin Chem.; 1989
- ³ Mock DM, Quirk JG, Mock NI. Marginal biotin deficiency during normal pregnancy. Am J Clin Nutr.; 2002

Features of RIDASCREEN® Biotin

RIDASCREEN® Biotin Art. No. H1601

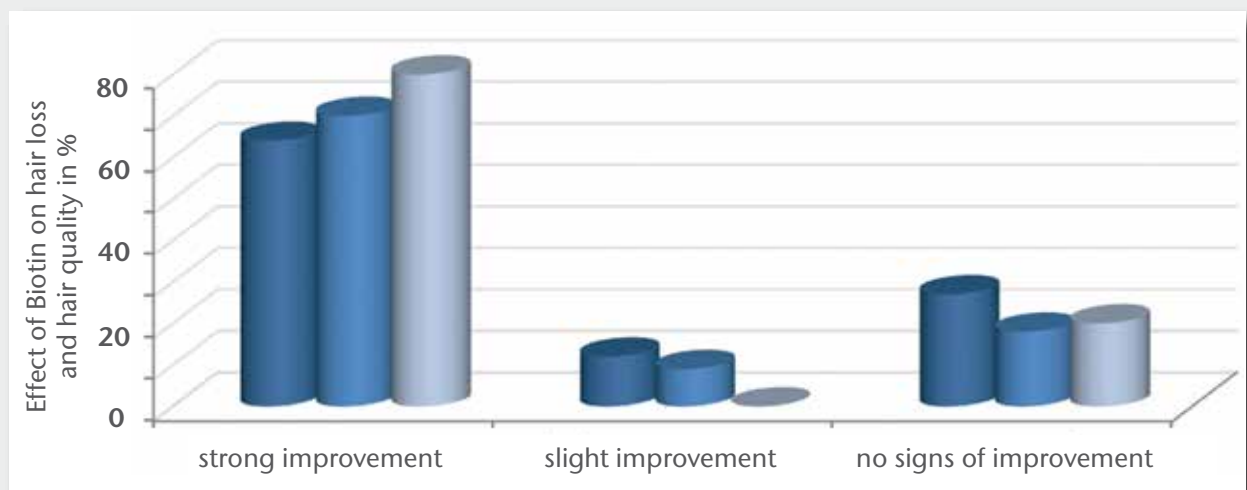


- **Precise quantification** based on 5 standards
- Biotin detection in **serum and plasma**
- **Fast results in 90 min**
- Validated for **automated systems**
- **Additional quality controls** ensure a high standard of quality assurance

Benefits of measuring your biotin status

Several studies investigating the effect of biotin supplementation showed rapid and promising therapy results for symptoms like hair loss, reduced hair quality and brittle nails.^{4,5}

Since more than 60 % of the patients showed an obvious improvement within half a year of treatment, people suffering from these symptoms benefit from a quantitative determination of their biotin status.



● hair loss (n=80)

● reduced hair quality (n=57)

● brittle finger nails (n=25)

Effect of biotin supplement on hair loss and hair quality.⁵

References:

⁴ Hochman LG, Scher RK, Meyerson MS. Brittle nails: response to daily biotin supplementation. *Cutis*; 1993

⁵ Floersheim GL. An Examination of the Effect of Biotin on Alopecia and Hair Quality. Berliner Medizinische Verlagsanstalt GmbH; 1992



Performance data

The inter- and intra-assay reproducibility of the RIDASCREEN® Biotin has been tested with three different concentrations of biotin by multi-determination

(n=20 and n=24) at different days. The inter- and intra-assay reproducibility of the RIDASCREEN® Biotin ELISA is summarized in the following tables:

	RIDASCREEN® Biotin		
Interassay n=20	1. Concentration	2. Concentration	3. Concentration
AV (OD)	0.181	1.215	1.439
CV %	8.8	7.3	7.5

	RIDASCREEN® Biotin		
Intraassay n=24	1. Concentration	2. Concentration	3. Concentration
AV (OD)	0.193	1.181	1.409
CV %	6.4	5.7	5.6

Ordering information

Product	Description	Tests	Matrix	Art. No.
RIDASCREEN®	Enzyme binding assays for vitamin detection			
RIDASCREEN® Biotin	Quantitative detection of biotin in serum and plasma	96	Serum/ Plasma	H1601

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