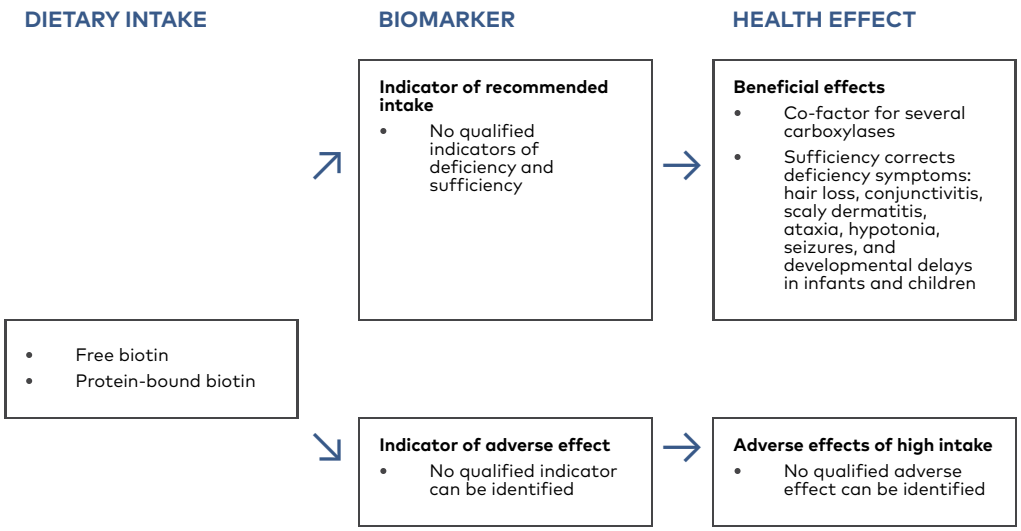
Biotin (vitamin B_7)



	Females	Males
Provisional AR (µg/d)	32	32
AI (µg/d)	40	40

For more information about the health effects, please refer to the background paper by Beate Stokke Solvik and Tor A. Strand (Solvik & Strand, 2023).

Dietary intake. Biotin, also referred to as vitamin B_7, is a water-soluble vitamin. Most foods, such as milk, liver, grain, egg yolk, and some vegetables, contain low concentrations of biotin. Protein-bound biotin needs to be released by biotinidase before absorption. The dietary intake of biotin is not estimated in any of the Nordic national surveys. In Latvia, the average intake of biotin in adults was between 34 and 45 µg/day (EFSA, 2014a).

Main functions. Biotin functions as a cofactor for several carboxylases that are involved in fatty acid synthesis, gluconeogenesis, and catabolism of branched-chained amino acids. Biotin may also have a role in cellular processes, including gene regulation.

Indicator for recommended intake. No qualified indicator can be identified (Eeuwijk et al., 2012; Solvik & Strand, 2023). Biomarkers sensitive to biotin depletion, including urinary biotin excretion and biomarkers of biotin function, have been identified. Dose-response relationships between biotin intakes and these biomarkers have not been established.

Main data gaps. The concentration of biotin in foods should be analysed and incorporated into the Nordic and Baltic food composition tables to estimate dietary intakes and requirements for different age groups.

Deficiency and risk groups. A deficiency is unlikely in the general population. Biotin deficiency has been demonstrated in cases of inherited biotinidase deficiency. Symptoms of biotin deficiency include hair loss, conjunctivitis, scaly dermatitis, ataxia, hypotonia, seizures, and developmental delays in infants and children

Dietary reference values. Population-level data on biotin biomarkers are lacking, and no cut-off values for biotin adequacy or insufficiency can be established. In NNR2023, an AI is set to 40 µg/day (females and males), derived from AI set by EFSA (2014a) which is based on observed dietary intake data with no sign of deficiency in the EU. Provisional AR is set to 32 µg/day (females and males). Not sufficient data to derive UL.