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Titel des Beitrags:
Reproducibility of and Correspondence among Different Hepcidin Forms in Blood and Urine and Their Relationships to Iron Status in Healthy, Male Guatemalan Volunteers Observed over 9 Weeks

Abstract:
Background/Aims: Prohepcidin and the active form hepcidin-25 are two variants of the peptide hormone hepcidin for iron homoeostasis. Their regulatory role and usefulness as biomarkers of the iron status are uncertain. Our aim is to describe the intra-individual variance of serum and urinary hepcidin-25 and prohepcidin concentrations, the mutual associations of the 4 hepcidin formats, and their correspondence with iron status variables in male Guatemalan volunteers. Methods: Eight healthy adult males provided serial samples of serum and urine without previous iron dosing over 6 intervals during a 9-week protocol period. Prohepcidin was assayed by a commercial enzyme immunoassay, and hepcidin-25 species in serum and urine were analysed by time-of-flight mass spectrometry after prior enrichment procedures. Results: Serum hepcidin-25 levels correlated significantly with urinary hepcidin-25 concentrations, whereas serum and urinary prohepcidin were not associated with one another or with the homologous or converse formats for hepcidin-25. Serum ferritin and transferrin saturation were significantly correlated with serum hepcidin-25 concentrations, but not with urine hepcidin-25 or with either format of prohepcidin. Conclusion: Hepcidin-25 shows correspondence across biological fluids, and the
background 'status' of hepcidin activation may be related to the host's iron stores, whereas prohepcidin concentrations showed no promise in this regard.

**Stichworte:**
Hepcidin-25; Prohepcidin; Ferritin; Iron status; Iron regulation; Guatemala

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