

Elektrolyte, pH-Wert, Spurenelemente

Elektrolyte,

z.T. Ionen, für die Funktion der [Zellen](#) essentielle [Säuren](#), [Basen](#), [Salze](#) im [Cytosol](#).

essentielle	Vorkommen	Bestandteil von Zellen (~ Ur-Meer-Habitate)
Natrium	Vorwiegend extrazellulär	
Kalium	Vorwiegend intrazellulär	
Magnesium ,	Vorwiegend intrazellulär	Magnesiumstoffwechsel
Calcium	Intra- und Extrazellulär	
Chlorid	Intra- und Extrazellulär	
Phosphat	Intra- und Extrazellulär	Phosphatstoffwechsel, FGF23
HCO₃	Intra- und Extrazellulär	
H⁺	Intra- und Extrazellulär	Protonen (H⁺) in wässriger Lösung (Säuregrad) http://www.kabilahsystems.de/ph.pdf

Physiologische Prozesse, wie elektrische Aktivität (Stress) oder Aktivierung von Neurotransmitter-Rezeptoren, führen zu Schwankungen des intra- und extrazellulären pH-Wertes. Die physiologischen Verhältnisse werden über die Nieren, die Atmung und die Schweißsekretion extrem stabil gehalten. **Eine intakte pH-Regulierung ist die Folge eines intakten Zyto-Skeletts.** Die intrazellulären pH-Werte werden durch Zytoskelett-Toxine in den sauren Bereich verschoben, bei Menschen mit intakter Zellatmung (Mitochondrien) aber nicht durch die Ernährung.

Patho-physiologische Prozesse (Zytoskelett Toxine) z.B. Durchblutungsstörungen, Ischämie, Bronchialasthma, epileptische Anfälle etc.. Diese können zu massiven und lebensbedrohlichen Veränderungen des intra- und extrazellulären pH-Wertes in den sauren Bereich führen.

Essentielle Spurenelemente (Mensch):

essentielle	Vorkommen	Bestandteil von und Funktion
Eisen Fe	Fleisch, Blut	Hämoglobin Wachstums-Beschleuniger für die meisten Bakterien
Schwefel S	Eiweiß	~ Urmeer - Katalysator: FeS, Cystein, Methionin, Coenzym A , Thioester , Complement
Nickel Ni		~ Urmeer - Katalysatoren: Fe ₄ NiS ₅ , Fe ₅ NiS ₈
Silicium Si	Bier, Sand	~ statt Kohlenstoff. Mucopolysaccharide in Epithelien und Bindegewebe
Selen Se	Eier, Fleisch	Bestandteil von 30–50 Selenoproteinen wie der Glutathionperoxidase ,
Iod I	Meeresfische, Krustentiere,	Bestandteil der Schilddrüsenhormone
Zink Zn	Schalentiere, Muskelfleisch	Kollagen , Thymulin , Testosteron , am Abbau von Alkohol durch die Alkoholdehydrogenase , beteiligt. Gegenspieler zum Histamin.
Chrom Cr	Fleisch, Vollkornprodukte, Pflanzenöle, Bier	Bestandteil des Glucosetoleranz-Faktors
Cobalt Co	Fleisch, Hülsenfrüchte, Brokkoli	Bestandteil von Cobalamin
Fluor F	Schwarztee	fördert als Kristallisationskeim die Einlagerung von Calciumverbindungen in Hartgeweben
Kupfer Cu	Getreide, Nüsse, Kakao, einige grüne Gemüse, Schalentiere	Bestandteil zahlreicher Redoxenzyme
Mangan Mn	Schwarztee, Nüsse, Vollgetreide, grünes Blattgemüse	~ Urmeer – (Manganknollen in der Tiefsee) Katalysatoren: Mn ₄ CaO ₄ , Mn ₄ CaO ₉ .3H ₂ O, Mn ₈ [Ba,K]1-2O ₁₆ , Aktivator und Bestandteil zahlreicher Enzyme, antioxidativer Metabolismus, Knorpel- und Knochensynthese, Gluconeogenese, essentiell bei Borrelien (anstelle von Eisen)
Molybdän Mo	ubiquitär	Bestandteil des universellen Molybdän-Cofaktors
Vanadium V	Hülsenfrüchte, Nüsse, Meeresfrüchte	ungeklärt

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„**A recent study on cows fed genetically modified Roundup®-Ready feed revealed a severe depletion of serum Mn. Glyphosate, the active ingredient in Roundup®, has also been shown to severely deplete Mn levels in plants. Here, we investigate the impact of Mn on physiology, and its association with gut dysbiosis as well as neuropathologies such as autism, Alzheimer's disease (AD), depression, anxiety syndrome, Parkinson's disease (PD), and prion diseases.**“

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Möglicherweise essentielle Spurenelemente (Mensch):

Arsen As	Algen, Krebstiere	~ statt Phosphor L-Arginin-Verstoffwechslung
Bor B	Ubiquitär, z.B. Rote Bete, Curcuma	Essentiell für Knochen- und Gehirnstoffwechsel, Sexualhormonproduktion
Lithium Li		Natriumantagonist; Anfallsprophylaxe bei Schizophrenie / Li-Orotat: Serumspiegel Kontrolle! (Zielwert 0,5 – 1,2 mmol/l)
Rubidium Rb		
Zinn Sn		
Barium Ba		

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