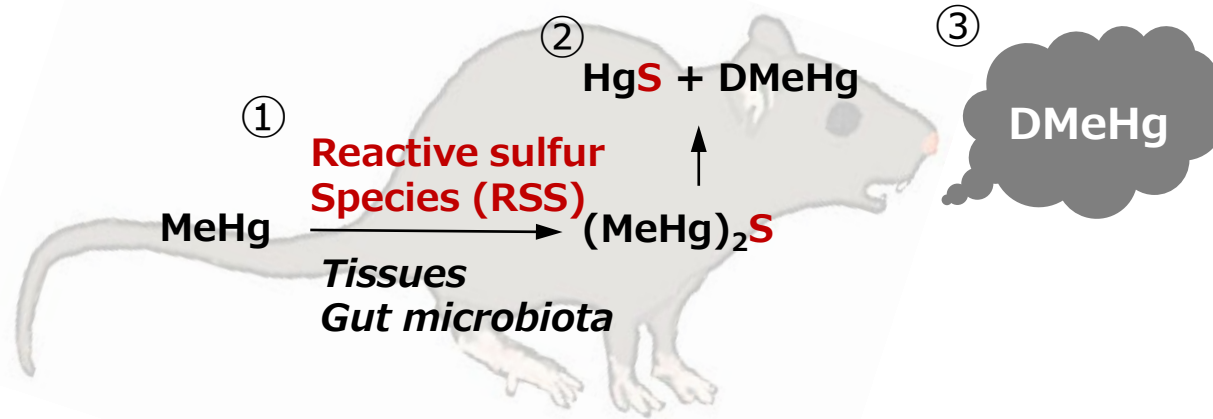


The fate of methylmercury through the formation of bismethylmercury sulfide as an intermediate in mice



Methylmercury (MeHg), which causes central nervous system disorders, is known to accumulate in edible fish such as tuna through bioaccumulation.

① MeHg is biotransformed to bismethylmercury sulfide [$(\text{MeHg})_2\text{S}$] by interaction with reactive sulfur species (RSS) produced in the body and the gut.

② In a cell-free system, $(\text{MeHg})_2\text{S}$ undergoes degradation, resulting in the formation of mercury sulfide (HgS) and dimethylmercury (DMeHg), which were determined by X-ray diffraction and gas chromatography/mass spectrometry, respectively.

③ DMeHg in the expiration was detected after the intraperitoneal administration of $(\text{MeHg})_2\text{S}$ to mice.

Therefore, our findings indicate that RSS play a role in facilitation of MeHg excretion to outside of the body.

References: Abiko Y et al., *Sci Rep* 2021; 11(1):17598. doi: 10.1038/s41598-021-96579-y.

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