

## **A NEW PORTABLE MONITOR ODOROUS COMPOUNDS IN**



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## **FOR MEASUREMENT OF ORAL, EXHALED AND NASAL AIR**

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### **Introduction**

A compact and simple gas monitor (**B/B checker<sup>®</sup>**) equipped with newly invented direct gas sensor has been developed for measuring volatile compounds in oral, exhaled and nasal air.

### **Purpose**

The purpose of this study was to assess the correlation between the measurements of the new monitor (**B/B checker<sup>®</sup>**) and those of organoleptic testing and ordinary gas chromatography.

### **Conclusion**

**The results suggest that the new portable monitor (**B/B checker<sup>®</sup>**) might be useful for the diagnosis of malodor from oral and nasal cavity.**

# Methods

- ◆ **Subjects**  
Twenty healthy subjects ( 10 females and 10 males; mean age: 41.2 ± 19.3 )  
Oral gas, Exhaled gas and Nasal gas were analyzed.
- ◆ **Measurement of samples**  
The new monitor (B/B Checker , Taiyo Inst. Inc., Japan)  
The total concentration of various volatile compounds was measured.  
The gas chromatography (GC-14B, Shimazu Corp., Japan)  
Volatile sulfur compounds (VSCs)  
Hydrogen sulfide , methyl mercaptan, dimethyl sulfide were measured.

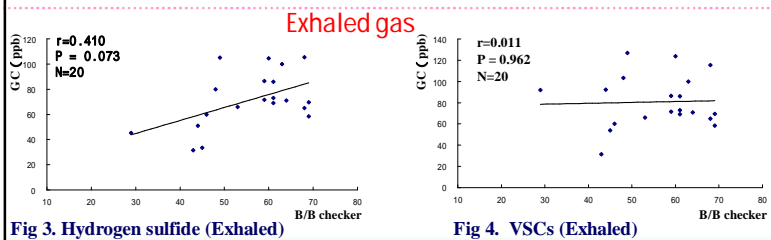
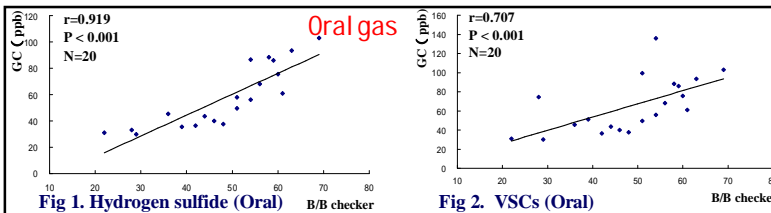


# Results

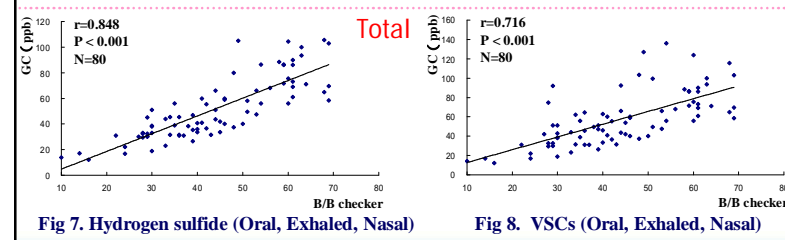
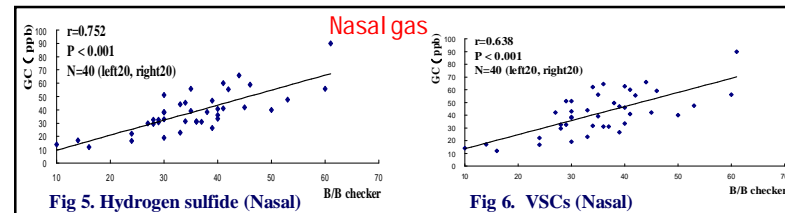
**Table. Results of each parameters of oral gas, exhaled gas and nasal gas**

Gas	B/B checker®	Hydrogen sulfide (ppb)	VSCs (ppb)
Oral (N=20)	48.5 ± 12.7 *	57.9 ± 23.5	65.3 ± 28.7
Exhaled (N=20)	56.0 ± 10.8	71.6 ± 22.0	80.8 ± 24.5
Nasal (N=40)	35.3 ± 10.7	38.2 ± 15.6	41.6 ± 16.8

\*: Mean ± S.D.



**Relationship of gas concentration measured using gas chromatography and B/B checker**



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