

Prebiotic Molecules in Interstellar Molecular Clouds

Masatoshi Ohishi[1]

[1] NAOJ

More than 120 interstellar molecules have already been detected since 1963 mainly through observations by using radio telescopes. Many organic molecules including prebiotic molecules -- H_2CO , CH_3COOH , CH_2OHCHO , CH_2NH and so on -- are detected toward various celestial objects, especially hot molecular cores. The formation mechanisms for such organic molecules are related with grain surface chemistry.

Extensive surveys were made to search for prebiotic molecules: sugar, amino acids, etc. The first interstellar sugar, glycolaldehyde (CH_2OHCHO), were detected in 2000 toward a huge molecular cloud complex in the Galactic Center, Sgr B2. In 2003, Kuan et al. (2003) claimed detection of interstellar glycine ($\text{NH}_2\text{CH}_2\text{COOH}$) toward Orion KL, W51 and SgrB2. However, another paper by Hollis et al. (2003) reported negative results on a search for glycine toward Orion KL.

Therefore, in January 2004, we conducted a search for interstellar glycine toward Orion KL using the 45-m radio telescope of Nobeyama Radio Observatory, National Astronomical Observatory of Japan. In the meeting we report the results on the observation.