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| **Supplementary table 2**. Intestinal BA-modifying bacteria spectrum in MASLD and CKD patients and animal models | | | |
| **Author** | **Groups** | **Diagnosis** | **Gut Microbiome** |
| **MASLD** | | | |
| Wang, B., et al.58 (2016) | MASLD (n=43) vs. HC (n=83) | ultrasound | **Phylum:** Bacteroidetes↑ Firmicutes↓  **Family:** Ruminococcaceae↓ Lactobacillaceae↓ Peptostreptococcaceae↓  **Class**: Bacteroidia↑ Clostridia↓ |
| Raman, M., et al.67 (2013) | MASLD (n=30) vs. HC (n=30) | ultrasound | **Family:** Ruminococcaceae↓  **Genus:** Lactobacillus↑ |
| Wong, V. W., et al.59 (2013) | MASH (n=16) vs. HC (n=22) | Liver biopsy | **Phylum:** Firmicutes↓  **Class:** Clostridia↓ |
| Boursier, J., et al.49 (2016) | No MASH (n=22) vs. MASH (n=35) | Liver biopsy | **Genus**: Bacteroides↑ |
| Schwimmer, J. B., et al.60 (2019) | MASLD (n=87) vs. HC (n=37) | Liver biopsy | **Phylum**: Bacteroidetes↑ Proteobacteria↑ |
| Ponziani, F. R., et al.61 (2019) | Cirrhosis (n=41) vs. HC (n=20) | Liver biopsy or clinical findings | **Phylum**: Bacteroidetes↑ Proteobacteria↑  **Family**: Lactobacillaceae↑ Bacteroidaceae↑  Enterococcaceae↑ Bifidobacteriaceae↓  **Genus**: Lactobacillus↑ Bacteroides ↑ Ruminococcus↑ Enterococcus↑ Bifidobacterium↓ |
| Shen, F., et al.68 (2017) | MASLD (n=25) vs. HC (n=20) | Liver biopsy | **Phylum**: Proteobacteria↑  **Family**: Ruminococcaceae↓ Enterobacteriaceae↑  **Genus**: Escherichia-Shigella↑ |
| Da Silva, H. E., et al.73 (2018) | MASLD (n=39) vs. HC (n=28) | Liver biopsy | **Phylum:** Bacteroidetes↓ Firmicutes↓ **Family:** Bacteroidaceae↓ Lactobacillaceae↑ **Genus：**Bacteroides↓ Ruminococcus↓ Lactobacillus↑ |
| Jiang, W., et al.70 (2015) | MASLD (n=53) vs. HC (n=32) | Liver biopsy /ultrasound | **Genus**: Escherichia↑ Lactobacillus↑ |
| Carbajo-Pescador, S., et al.74 (2019) | MASLD (n=12) vs. HC (n=12) | Liver Biopsy | **Phylum**: Bacteroidetes↓ Firmicutes↑  **Class**: Clostridia↑ Bacteroidia↓ **Genus**: Lactobacillus↓ Clostridium↑ |
| Rahman, K., et al.65 (2016) | MASLD (n=5) vs. HC (n=5) | Liver Biopsy | **Phylum**: Proteobacteria↑ Firmicutes↑ Bacteroidetes↓ |
| **CKD** | | | |
| Li, F., et al.78 (2019) | CKD (n=50) vs. HC (n=22) | eGFR < 60 ml/min/1.73m2 | **Phylum**: Actinobacteria↑  **Genus**: Lactobacillus↑ |
| Pivari, F., et al.77 (2022) | CKD (n=24) vs. HC (n=20) | 15 < GFR < 60 ml/min/1.73m2 | **Family**: Bacteroidaceae↓  **Genus**: Escherichia-Shigella↓ Bacteroides↓ |
| Huang, H., et al.81 (2021) | CKD (n=9-11) vs. HC (n=9-11) | Kidney biopsy | **Genus**: Lactobacillus↑ |
| Hu, J., et al.79 (2017) | Early RF (n=6-9) vs. HC (n=6-9) | Kidney biopsy | **Phylum**: Firmicutes↓ Bacteroidetes↑ |
| Li, Y. J., et al.80 (2020) | DN (n=40) vs. NC (n=5) | Blood glucose level > 20mmol/l | **Genus**: Bacteroides↓ Ruminococcus↓ |
| Mishima, E., et al.82 (2015) | RF (n=6) vs. HC (n=6) | Kidney biopsy | **Family**: Lactobacillaceae↓  **Class:** Clostridia↓  **Genus**: Bifidobacterium↑ Clostridium↑ |

*Abbreviations:* MASLD, metabolic dysfunction-associated steatotic fatty liver disease; MASH, metabolic dysfunction-associated steatohepatitis; HC, healthy control; CKD, chronic kidney disease; RF, renal failure; DN, diabetic nephropathy; NC, normal chow