

Supplementary Table 1

| | Group | Intratracheal administration | Inhaled Gas | Inhalation period | Mice, total | Excluded (humane endpoint) | N (Included in analysis) | |
|---|-------|------------------------------|---------------------|-------------------|-------------|----------------------------|--------------------------|---|
| Mice 21 days after administration | SA | Saline | Air | 21 days | 6 | 0 | 6 | Respiratory physiological examination(Fig1) Computed tomography(Fig2) HE and E-M staining, histological scoring(Fig3) Western blotting(Fibronectin, α SMA, COL1)(Fig4) |
| | SH | Saline | 3.2% H ₂ | 21 days | 6 | 0 | 6 | |
| | BA | Bleomycin | Air | 21 days | 13 | 2 | 11 | |
| | BH | Bleomycin | 3.2% H ₂ | 21 days | 13 | 2 | 11 | |
| Mice 7 days after administration | SA | Saline | Air | 7 days | 12 | 0 | 12 | RT-PCR(Fig5), -SA:12, SH:12, BA:28, BH:28 Western blotting, Immunostaining (TGF β , IL6)(Fig6), BALF assay(Figure 7-a,b) Immunofluorescence (Iba-1, CD 163) (Fig8) -SA:6, SH:6, BA:15, BH:15 |
| | SH | Saline | 3.2% H ₂ | 7 days | 12 | 0 | 12 | |
| | BA | Bleomycin | Air | 7 days | 28 | 0 | 28 | |
| | BH | Bleomycin | 3.2% H ₂ | 7 days | 28 | 0 | 28 | |
| Mice 7 days after administration (Additional experiments) | BA | Bleomycin | Air | 7 days | 10 | 0 | 10 | BALF cells RT-PCR (Fig 6-d) |
| | BH | Bleomycin | 3.2% H ₂ | 7 days | 10 | 0 | 10 | |
| Total | | | | | 138 | 4 | 134 | |

| Termination method | Subjects | n |
|--------------------------------------|--|-----|
| CO ₂ asphyxiation | Euthanized for meeting humane endpoint, and excluded from analysis | 4 |
| Exsanguination under deep anesthesia | subject of analysis (before scheduled sampling) | 134 |

Supplementary Table 2

| Primer summary | | |
|-----------------------|---------|---------------------------|
| IL-6 | Forward | GAGGATACCACTCCCAACAGACC |
| | Reverse | AAGTGCATCATCGTTGTTCATACA |
| IL-4 | Forward | AGATGGATGTGCCAAACGTCCTCA |
| | Reverse | AATATGCCGAAGCACCTTGGAAGCC |
| IL-13 | Forward | TGAGGAGCTGAGCAACATCACACA |
| | Reverse | TGCGGTTACAGAGGCCATGCAATA |
| IL-10 | Forward | CGGGAAGACAATAACTGCACCC |
| | Reverse | CGGTTAGCAGTATGTTGTCCAGC |
| COL1 | Forward | ATCTCCTGGTGCTGATGGAC |
| | Reverse | ACCTTGTTTGCCAGGTTTAC |
| Fibronectin | Forward | CGAGGTGACAGAGACCACAA |
| | Reverse | CTGGAGTCAAGCCAGACACA |
| RPL4 | Forward | GCCAAGACTATGCGCAGGAAT |
| | Reverse | GTAGCTGCTGCTTCCAGCTT |

Supplementary Table 3

| Antibody summery | | |
|------------------------------------|--------------------------------------|---------------|
| Target (Host, Class) | Company, Catalog no | Dilution |
| Fibronectin (Rabbit polyclonal) | Proteintec 15613-1-AP | 1:1,000 (WB) |
| α SMA (Mouse monoclonal) | Abcam ab7817 | 1:3,000 (WB) |
| COL1 (Rabbit polyclonal) | Abcam ab34710 | 1:2,000 (WB) |
| TGF β (Rabbit monoclonal) | Abcam ab215715 | 1:10,000 (WB) |
| β actin (Mouse monoclonal) | Sigma A5441 | 1:10,000 (WB) |
| GAPDH (Mouse monoclonal) | Proteintec 60004-1-Ig | 1:5,000 (WB) |
| Mouse IgG labeling HRP (Goat) | Jackson ImmunoResarch 115-035-062 | 1:10,000 (WB) |
| Rabbit IgG I labeling HRP (Goat) | Jackson ImmunoResarch 111-035-144 | 1:10,000 (WB) |
| TGF β (Rabbit polyclonal) | Abcam ab92486 | 1:200 (IHC) |
| IL-6 (mouse monoclonal) | Abcam ab9324 | 1:500 (IHC) |
| Mouse IgG labeling biotin (Goat) | Jackson ImmunoResarch 115-065-146 | 1:1,000 (IHC) |
| Rabbit IgG labeling biotin (Goat) | Jackson ImmunoResarch 115-065-144 | 1:1,000 (IHC) |
| Iba-1 (Goat monoclonal) | Abcam ab5076 | 1:200 (IF) |
| CD163 (Rabbit monoclonal) | Abcam ab182422 | 1:400 (IF) |
| Goat IgG AlexaFlour 488 (Donkey) | Abcam ab150133 | 1:400 (IF) |
| Rabbit IgG AlexaFlour 594 (Donkey) | Abcam ab150064 | 1:400 (IF) |