

| Table S1. Patients included in the study. Clinical and demographic data and variables related to their houses |                                   |     |                      |                                         |                                         |                                                                               |                    |               |                             |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|----------------------|-----------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------|--------------------|---------------|-----------------------------|
| LBA SAMPLE                                                                                                    | SEX                               | AGE | ENVIRONMENTAL SAMPLE | UNDERLYING DISEASE                      | PROFESSION                              | TRAVELS                                                                       | AREA (rural/urban) | TYPE OF HOUSE | PETS                        |
| 1                                                                                                             | F                                 | 40  |                      | Hemoptysis                              | shoe maker                              | No                                                                            |                    |               | No                          |
| 2                                                                                                             | M                                 | 53  |                      | ILD                                     | warehouse forklift driver               | No                                                                            |                    |               | No                          |
| 3                                                                                                             | M                                 | 60  | 3ENV                 | cancer (neuroendocrine)                 | Grocery/administrative in metal factory | No                                                                            | Limit urban/rural  | house         | fish                        |
| 4                                                                                                             | M                                 | 59  |                      | epidermoid carcinoma                    | Shoe industry (leather warehouse)       | Portugal 2012                                                                 |                    |               | No                          |
| 5                                                                                                             | M                                 | 48  |                      | Wegener syndrome                        | Shoe maker                              | No                                                                            |                    |               | No                          |
| 6                                                                                                             | M                                 | 64  | 6ENV                 | ILD                                     | Building (retired)                      | No                                                                            | urban              | flat          | No                          |
| 7                                                                                                             | M                                 | 64  | 7ENV                 | Hemoptysis/bronchiectasis               | concierge                               | France, England and Ireland 2005 Portugal 2007                                | urban              | flat          | canary                      |
| 9                                                                                                             | M                                 | 73  | 9ENV                 | oat-cell cancer                         | Shoe industry                           | No                                                                            | urban              | flat          | No                          |
| 10                                                                                                            | M                                 | 41  | 10ENV                | ILD/systemic sclerosis / adenocarcinoma | Draughtsman (architecture) Unemployed   | England 2013                                                                  | urban              | flat          | No                          |
| 11                                                                                                            | M                                 | 59  | 11ENV                | Hemoptysis                              | locksmith                               | No                                                                            | urban              | flat          | No                          |
| 12                                                                                                            | F                                 | 68  | 12ENV                | Dyspnea / Relapsing Polychondritis      | canning industry worker                 | Prague 2000                                                                   | urban              | flat and shop | No                          |
| 14                                                                                                            | F                                 | 77  |                      | Pulmonar node                           | Cleaning service (Kindergarden)         | France                                                                        |                    |               | No                          |
| 15                                                                                                            | M                                 | 58  |                      | ILD                                     | Transport and hostelry                  | No                                                                            |                    |               | No                          |
| 16                                                                                                            | F                                 | 53  | 16ENV                | Thymoma                                 | grocery                                 | No                                                                            | urban              | flat          | turtles                     |
| 17                                                                                                            | M                                 | 72  |                      | TBC sequels                             | builder                                 | Rome, Monaco, Istanbul                                                        |                    |               | No                          |
| 18                                                                                                            | M                                 | 65  | 18ENV                | Hypersensitivity pneumonitis            | show manager                            | Frequently: Eastern Europe, SouthAmerica and Cuba. Prague 2016; Portugal 2017 | Limit urban/rural  | house         | NO                          |
| 19                                                                                                            |                                   |     | CONTROL BCP          |                                         |                                         |                                                                               |                    |               |                             |
| 20                                                                                                            | M                                 | 71  |                      | Hemoptysis                              | Shoe industry (leather warehouse)       | No                                                                            |                    |               | hens                        |
| 21                                                                                                            | M                                 | 68  |                      | adenocarcinoma                          | Car seller; hostelry                    | France                                                                        |                    |               | canaries                    |
| 22                                                                                                            | M                                 | 68  |                      | adenocarcinoma                          | Builder, agriculture, hostelry          | No                                                                            |                    |               | Pigeons ( in the proximity) |
| 23                                                                                                            | M                                 | 55  | 23ENV                | epidermoid carcinoma                    | Shoe industry (leather craftsman)       | Melilla (North Africa)                                                        | urban              | flat          | No                          |
| 24                                                                                                            | M                                 | 74  | 24ENV                | epidermoid carcinoma                    | Plumber                                 | Bordeaux                                                                      | urban              | flat          | No                          |
| 25                                                                                                            | F                                 | 81  |                      | Atelectasis                             | Shoe maker, warehouse, grape harvester  | No                                                                            |                    |               | No                          |
| 26                                                                                                            | M                                 | 73  | 26ENV                | epidermoid carcinoma                    | Builder                                 | No                                                                            | limit rural/urban  | house         | hens, quails                |
| 27                                                                                                            | M                                 | 76  | 27ENV                | oat-cell cancer                         | Notary officer                          | rome, Monaco, Istanbul                                                        | rural              | house         | No                          |
| 28                                                                                                            | F                                 | 84  |                      | ILD                                     | Shoe industry                           | Greece, Hungary, Czech Republic                                               |                    |               | No                          |
| 29                                                                                                            | F                                 | 56  |                      | right lung infiltrate                   | Administrative                          | France                                                                        |                    |               | No                          |
| 30                                                                                                            | F                                 | 73  | 30ENV                | metastasis (kidney tumor)               | Baker; Builder                          | No                                                                            | rural              | farm          | Siskins, canaries, pigeons  |
| 31                                                                                                            | M                                 | 55  |                      | microcitic cancer                       | Builder; Real estate agency             | Africa                                                                        |                    |               | No                          |
| 32                                                                                                            | F                                 | 63  | 32ENV                | Tracheal stenosis                       | Bakery; Sausage factory                 | Indonesia, Argentina, Dominican Republic, Morocco                             | urban              | house         | goldfinch, canaries         |
| 33                                                                                                            | M                                 | 57  |                      | oat-cell cancer                         | gardener                                | Bordeaux                                                                      |                    |               | canaries                    |
| 34                                                                                                            | F                                 | 58  | 34ENV                | ILD                                     | Cleaning service (Kindergarden)         | No                                                                            | limit rural/urban  | flat          | tortoises                   |
| 35                                                                                                            | M                                 | 61  |                      | ILD                                     | Builder                                 | No                                                                            |                    |               | canary                      |
| 36                                                                                                            | F                                 | 70  |                      | Hodking lymphoma                        | Retired                                 | No                                                                            |                    |               | pigeons                     |
| 37                                                                                                            |                                   |     | CONTROL BCP          |                                         |                                         |                                                                               |                    |               |                             |
| 38                                                                                                            |                                   |     | CONTROL BCP          |                                         |                                         |                                                                               |                    |               |                             |
| 39                                                                                                            | F                                 | 56  |                      | adenocarcinoma                          | Housewife                               | No                                                                            |                    |               | No                          |
| 40                                                                                                            | F                                 | 84  |                      | metastasis (gastric tumor)              | Cleaning service                        | France                                                                        |                    |               | No                          |
| 41                                                                                                            | M                                 | 70  | 41ENV                | ILD                                     | Administrative                          | Czech Republic                                                                | urban              | flat          | No                          |
| 42                                                                                                            | M                                 | 69  | 42ENV                | ILD                                     | telephone pole installer                | Sweden, France                                                                | urban              | flat          | No                          |
| 43                                                                                                            | F                                 | 62  | 43ENV                | adenocarcinoma                          | Chemist. University Professor           | Cuba, Ecuador, France                                                         | urban              | flat          | no                          |
| 44                                                                                                            |                                   |     | CONTROL BCP          |                                         |                                         |                                                                               |                    |               |                             |
| 45                                                                                                            | F                                 | 52  |                      | No Hodking Lymphoma                     | Administrative                          | No                                                                            |                    |               | No                          |
| 46                                                                                                            | F                                 | 85  |                      | adenocarcinoma                          | Housewife                               | No                                                                            |                    |               | No                          |
| 47                                                                                                            | F                                 | 57  |                      | COPD                                    | Housewife                               | USA; Holand                                                                   |                    |               | No                          |
| 48                                                                                                            | F                                 | 54  |                      | cought                                  | caregiver children (school)             | no                                                                            |                    |               | dog                         |
| 49                                                                                                            | F                                 | 56  |                      | Hemoptysis                              | elderly caregiver                       | Italy                                                                         |                    |               | No                          |
| 50                                                                                                            | M                                 | 64  | 50ENV                | Pulmonar node                           | Butcher                                 | Jerusalem, Gaza, Morocco, Egypt, Sahara, Palestine                            | urban              | house         | No                          |
| 51                                                                                                            | F                                 | 65  |                      | Hemoptysis                              | Shoe maker/Housewife                    | NO                                                                            |                    |               | Pigeons (in the vicinity)   |
| 52                                                                                                            |                                   |     | CONTROL BCP          |                                         |                                         |                                                                               |                    |               |                             |
| 53                                                                                                            |                                   |     | CONTROL PCR          |                                         |                                         |                                                                               |                    |               |                             |
| ILD                                                                                                           | DIFFUSE INTERSTITIAL LUNG DISEASE |     |                      |                                         |                                         |                                                                               |                    |               |                             |

Table S2. Taxonomy of the OTUs identified in the study.

| Kingdom | Phylum         | Class                  | order               | family               | genus               | species           | Nº OTUS |
|---------|----------------|------------------------|---------------------|----------------------|---------------------|-------------------|---------|
| Fungi   |                |                        |                     |                      |                     |                   | 1       |
|         | Basidiomycota  | Agaricomycetes         | Agaricales          |                      |                     |                   | 1       |
|         |                |                        | Polyporales         | Fomitopsidaceae      | Auriporia           | A. aurulenta      | 1       |
|         |                | Agaricostilbomycetes   | Agaricostilbales    | Agaricostilbaceae    | Sterigmatomyces     | S. elviae         | 1       |
|         |                | Cystobasidiomycetes    | Cystobasidiales     | Cystobasidiaceae     | Cystobasidium       | C. pinicola       | 1       |
|         |                |                        | ord Incertae sedis  | Buckleyzymaceae      | Buckleyzyma         | B. aurantiaca     | 1       |
|         |                | Microbotryomycetes     | Sporidiobolales     |                      |                     |                   | 1       |
|         |                |                        |                     | Sporidiobolaceae     | Rhodosporeidiobolus | R. colostri       | 1       |
|         |                |                        |                     | Incetae_sedis        | Rhodotorula         | R. mucilaginoso   | 6       |
|         |                |                        |                     |                      |                     | R. diobovata      | 1       |
|         |                |                        |                     |                      |                     | R. nothofagi      | 1       |
|         |                | Tremellomycetes        | Filobasidiales      | Filobasidiaceae      | Filobasidium        | F. magnum         | 1       |
|         |                |                        | Tremellales         | Tremellaceae         |                     |                   | 1       |
|         |                |                        |                     |                      | Naganishia          | N. albidu         | 5       |
|         |                |                        |                     |                      | Tremella            | T. indecorata     | 1       |
|         |                |                        |                     |                      |                     | T. phaeophysciae  | 1       |
|         |                |                        |                     |                      | Cryptococcus        | Cr. uniguttulatus | 1       |
|         |                |                        |                     |                      |                     | Cr. neoformans    | 1       |
|         |                |                        |                     | fam Incertae sedis   | Kwoniella           | K. dendrophila    | 1       |
|         |                |                        | Cystofilobasidiales | Cystofilobasidiaceae | Cystofilobasidium   | C. capitatum      | 1       |
|         |                |                        |                     | fam Incertae sedis   | Kwoniella           | K. dendrophila    | 1       |
|         |                | Ustilaginomycotina_cls | Malasseziales       | Malasseziaceae       | Malassezia          | M. globosa        | 2       |
|         |                |                        |                     |                      |                     | M. restricta      | 1       |
|         |                |                        |                     |                      |                     | M. sympodialis    | 1       |
|         |                | Wallemiomycetes        | Wallemiales         | Wallemiaceae         | Wallemia            | W. sebi           | 2       |
|         | Ascomycota     |                        |                     |                      |                     |                   | 3       |
|         |                | Dothideomycetes        | Capnodiales         | Cladosporiaceae      | Cladosporium        |                   | 10      |
|         |                |                        | Dothideales         |                      |                     |                   | 1       |
|         |                |                        |                     | Dothioraceae         | Aureobasidium       | A. pullulans      | 1       |
|         |                |                        | Pleosporales        |                      |                     |                   | 1       |
|         |                | Leotiomycetes          | Erysiphales         | Erysiphaceae         | Golovinomyces       | G. leucheriae     | 1       |
|         |                | Saccharomycetes        | Saccharomycetales   |                      |                     |                   | 1       |
|         |                |                        |                     | fam Incertae sedis   | Debaryomyces        | D. mycophilus     | 1       |
|         |                |                        |                     |                      | Candida             | C. parapsilosis   | 1       |
|         |                |                        |                     |                      |                     | C. zeylanoides    | 1       |
|         |                |                        |                     |                      | Wickerhamomyces     | W. anomalus       | 1       |
|         |                |                        |                     | Metschnikowiaceae    | Clavispora          | C. lusitaniae     | 1       |
|         |                |                        |                     | Saccharomycetaceae   | Torulaspora         | T. delbrueckii    | 1       |
|         |                |                        |                     |                      | Saccharomyces       | S. cerevisiae     | 1       |
|         |                | Sordariomycetes        | Hypocreales         | fam Incertae sedis   |                     |                   | 1       |
|         |                |                        |                     | Nectriaceae          | Fusarium            | F. pseudensiforme | 1       |
|         |                |                        |                     | Hypocreaceae         | Trichoderma         |                   | 1       |
|         |                | Eurotiomycetes         | Chaetothyriales     |                      |                     |                   | 2       |
|         |                |                        | Eurotiales          | Trichocomaceae       | Aspergillus         | A. flavus         | 1       |
|         |                |                        |                     |                      |                     | A. subversicolor  | 1       |
|         |                |                        |                     |                      | Penicillium         | P. polonicum      | 1       |
|         | Chytridiomycot | Rhizophlyctiomycetes   | Rhizophlyctidales   | Rhizophlyctidaceae   | Rhizophlyctis       | R. rosea          | 1       |
|         |                | Spizellomycetes        | Spizellomycetales   | Spizellomycetaceae   | Powellomyces        |                   | 1       |

Table S3. Cultures: Number of isolates of each fungal species obtained from the culture of MA (green columns) and BAL samples (white columns) in PDA and SDA.

| Fungal species                        | 1 | 2 | 3 | 3   | 4 | 5 | 6   | 6 | 7   | 9   | 10 | 11 | 12 | 16 | 16  | 17 | 18 | 18  | 19 | 20 | 22 | 23 | 23 | 24  | 26 | 27  | 30  | 32   | 33  | 34 | 34 | 37 | 38  | 39 | 40 | 41 | 41  | 42 | 42  | 43 | 43  | 44 | 47 | 49  | 50  | 51  | TOTAL |      |
|---------------------------------------|---|---|---|-----|---|---|-----|---|-----|-----|----|----|----|----|-----|----|----|-----|----|----|----|----|----|-----|----|-----|-----|------|-----|----|----|----|-----|----|----|----|-----|----|-----|----|-----|----|----|-----|-----|-----|-------|------|
| <i>Alternaria sp</i>                  |   |   |   | 1   |   |   |     | 2 |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     | 2  | 1   |     |      |     |    |    |    |     |    |    |    | 3   |    | 7   |    | 2   |    |    |     | 4   |     | 22    |      |
| <i>Alternaria alternata/tenuisima</i> |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    | 1  |    |     |    |    |    | 4   |    | 4   |    |     |    |    |     |     | 9   |       |      |
| <i>Alternaria arborescens</i>         |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    | 5   |     |      |     |    |    |    |     |    |    | 1  |     | 2  |     |    |     |    |    |     |     | 8   |       |      |
| <i>Alternaria chlamydosporia</i>      |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    | 16 |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 16    |      |
| <i>Aspergillus sp</i>                 |   |   |   |     |   | 1 | 101 |   |     |     |    | 1  | 1  |    |     |    |    |     |    | 1  | 1  |    |    |     |    | 4   | 2   |      |     |    |    |    |     |    |    | 20 |     | 4  |     |    |     |    | 3  |     | 139 |     |       |      |
| <i>Aspergillus niger</i>              |   |   |   |     |   |   |     |   |     |     |    |    | 1  |    |     |    |    |     |    |    |    |    |    |     | 6  | 3   | 2   |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 12    |      |
| <i>Aureobasidium sp</i>               |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    | 48  |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 48    |      |
| <i>Aureobasidium pullulans</i>        |   |   |   | 4   |   |   |     | 1 |     |     | 6  |    | 1  |    |     |    |    | 22  |    |    |    |    |    |     | 1  | 144 | 10  | 67   |     |    |    | 99 |     |    |    |    | 9   |    | 1   |    | 2   |    |    |     | 6   |     | 373   |      |
| <i>Candida sp</i>                     |   |   | 2 | 136 |   |   |     |   |     |     |    | 6  |    |    |     |    |    | 12  |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 165   |      |
| <i>Candida parapsilosis</i>           |   |   |   |     |   |   |     |   |     |     |    | 1  | 8  |    |     |    |    |     |    |    |    |    |    | 300 | 20 |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    | 200 |     | 529 |       |      |
| <i>Cladosporium sp</i>                |   |   |   | 1   |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    | 52  | 46 | 12  | 117 |      | 3   |    |    |    | 106 |    |    |    |     |    |     |    |     |    |    |     | 64  |     | 401   |      |
| <i>Cryptococcus sp</i>                |   |   |   | 991 |   |   |     |   | 220 | 100 |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 1311  |      |
| <i>Cryptococcus albidus</i>           |   |   |   |     |   |   |     | 1 |     |     |    |    | 2  |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     | 1   |     | 4     |      |
| <i>Cryptococcus laurentii</i>         |   |   |   | 80  |   |   |     |   |     |     |    |    | 1  |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 81    |      |
| <i>Cryptococcus neoformans s.l.</i>   |   |   |   | 25  |   |   |     |   |     |     |    |    |    |    |     |    | 1  | 4   | 2  |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 32    |      |
| <i>Cystobasidium sp</i>               |   |   | 1 |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     | 1  |     | 2   | 2    | 2   |    |    |    | 3   |    |    |    |     |    |     |    |     |    |    |     |     |     |       | 11   |
| <i>Filobasidium sp</i>                |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     | 1   |     | 1     |      |
| <i>Filobasidium magnum</i>            |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    | 100 |    |    |    |    |    |     |    |     | 25  |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     |       | 125  |
| <i>Filobasidium uniguttulatum</i>     |   |   |   | 13  |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     |       | 13   |
| <i>Fusarium sp</i>                    |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    | 17  |    |    |    |    |    |     |    | 2   |     | 1    |     |    |    |    | 10  |    |    |    |     |    |     |    |     |    |    |     |     |     |       | 30   |
| <i>Fusarium oxysporum</i>             |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    | 9   |    |     |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 9     |      |
| <i>Naganishia sp</i>                  |   |   | 2 |     | 1 |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    | 1   |    |     |    |     |    |    |     |     |     | 4     |      |
| <i>Naganishia diffluens</i>           |   |   |   |     |   |   |     |   |     |     |    | 2  | 1  |    |     |    |    |     |    |    |    |    |    | 8   |    | 7   | 526 | 5    | 1   | 24 |    |    | 5   |    |    |    | 10  |    | 2   | 4  |     |    |    |     |     |     | 595   |      |
| <i>Penicillium sp</i>                 |   |   |   | 4   |   |   |     |   |     |     |    |    | 6  |    | 147 |    |    |     | 1  |    | 1  | 1  | 56 | 1   |    |     | 17  | 1    |     |    | 2  |    |     |    |    |    |     |    | 30  |    | 3   |    |    | 3   |     |     | 273   |      |
| <i>Penicillium glabrum</i>            |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    | 1   | 12 |     |     |      |     |    |    |    |     |    |    | 3  |     | 17 |     |    |     |    |    |     | 1   | 34  |       |      |
| <i>Rhodotorula sp</i>                 | 1 | 1 |   | 89  |   |   |     |   |     |     |    |    | 2  |    | 1   |    |    | 34  |    |    |    |    |    | 8   | 1  | 118 | 3   | 9    | 54  | 1  |    | 80 | 6   |    |    |    | 1   |    | 117 |    | 123 |    |    | 4   |     |     | 653   |      |
| <i>Rhodotorula mucilaginosa</i>       |   |   |   | 20  |   | 3 |     |   |     | 200 |    |    |    |    |     |    |    |     |    |    |    |    |    | 30  |    | 25  | 13  |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    | 2   |     |     | 293   |      |
| <i>Rhodotorula dairenensis</i>        |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    |     |     |      |     |    |    |    |     |    |    |    | 25  |    |     |    |     |    |    |     |     |     | 206   |      |
| <i>Rhodotorula diobovata</i>          |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     | 1  |     |     | 2    | 59  |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 62    |      |
| <i>Trichoderma sp</i>                 |   |   |   |     |   |   |     |   |     |     |    |    |    |    | 5   |    |    |     |    |    |    |    |    |     |    | 1   |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     |       | 6    |
| <i>Trichosporon sp</i>                |   |   |   | 2   |   |   |     | 1 |     |     |    |    | 1  |    |     |    |    |     |    |    |    |    |    | 2   |    |     | 2   |      | 2   |    |    |    | 2   |    |    |    | 3   |    | 2   |    | 1   |    |    |     | 1   |     | 19    |      |
| <i>Zigomycetes</i>                    |   |   |   |     |   |   |     |   |     |     |    |    |    |    |     |    |    |     |    |    |    |    |    |     |    | 2   |     |      |     |    |    |    |     |    |    |    |     |    |     |    |     |    |    |     |     |     | 2     |      |
| Fungi not identified                  | 2 |   |   |     | 1 | 1 |     |   |     | 158 | 10 | 30 | 55 |    | 82  |    |    | 261 |    |    |    |    |    | 191 | 6  | 471 | 187 | 3469 | 789 | 1  |    | 77 |     |    |    |    | 327 | 19 | 336 | 50 | 85  |    | 40 | 40  |     |     |       | 6688 |

## PROJECT WORK FLOW

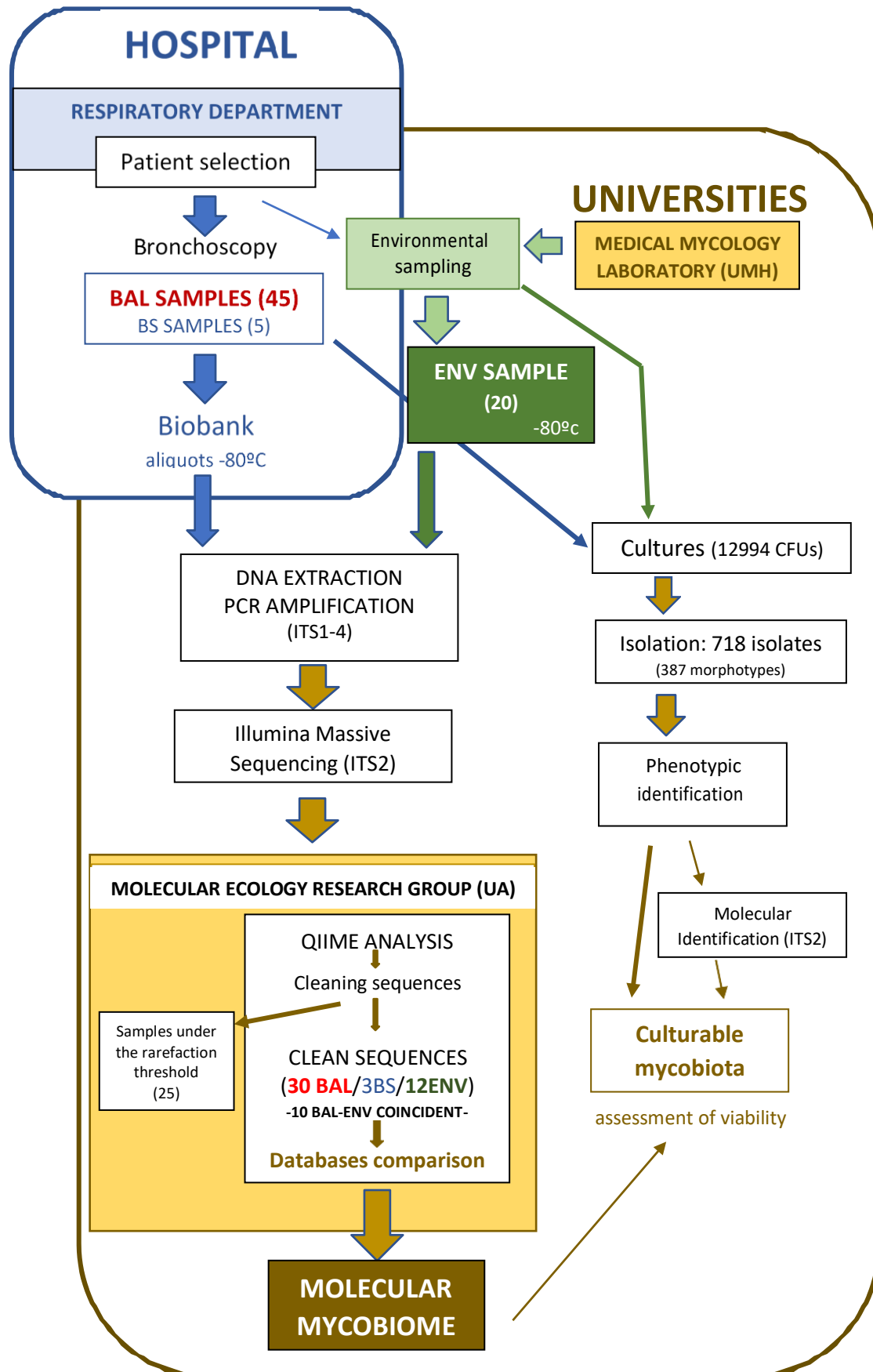


Figure S1: Project workflow

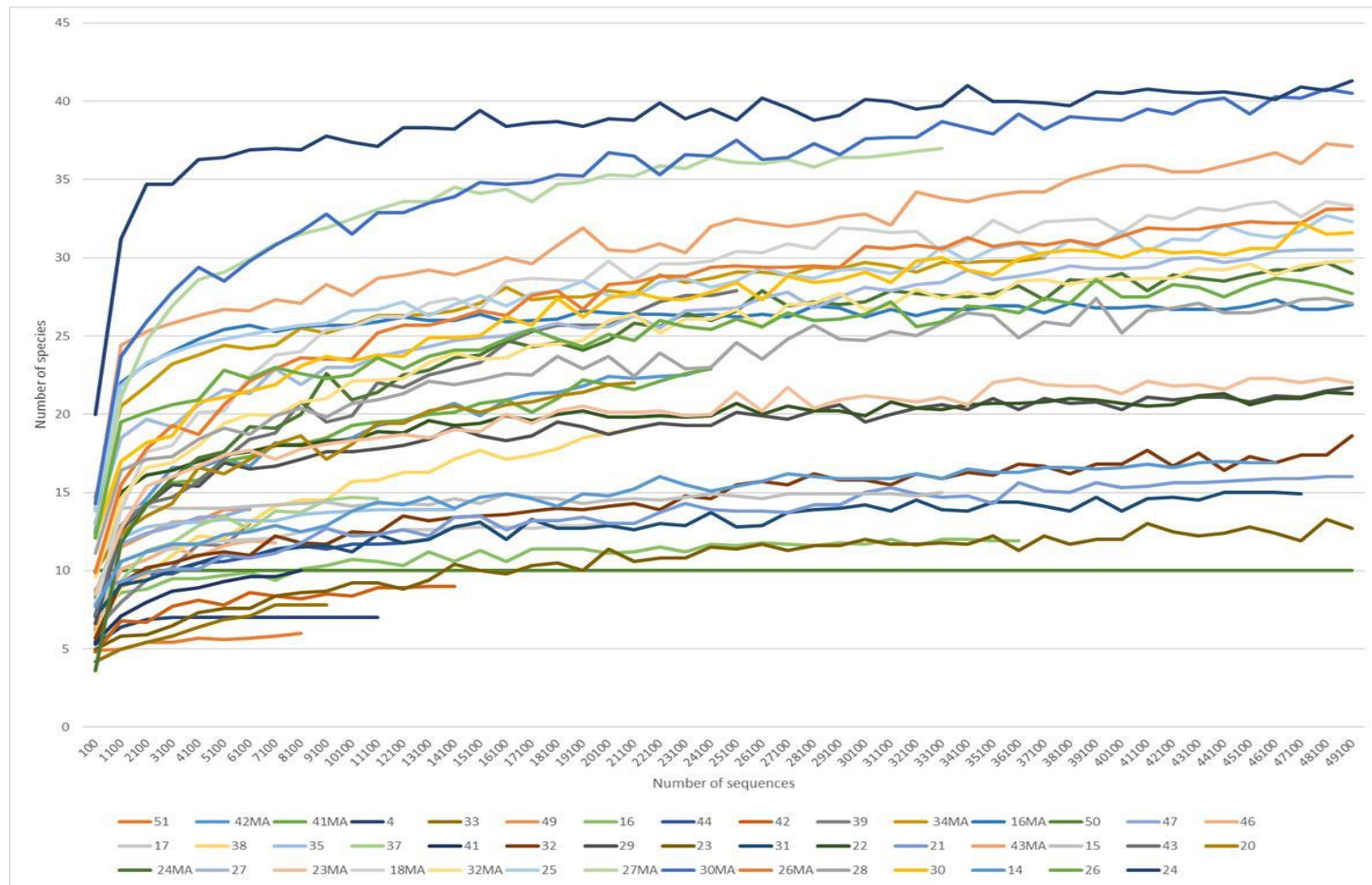


Figure S2: Rarefaction curves

**Head of research in each hospital:**

ELDA HOSPITAL: Dr. David Orts; ALICANTE HOSPITAL: Dra. Cleofé Fernández; VINALOPÓ HOSPITAL: Dra. Beatriz Amat; VALENCIA CLINICO HOSPITAL: Dr. José Franco

**RESPIRATORY TRACT MYCOBIOME: RELATIONSHIP WITH THE ENVIRONMENT**  
**PATIENT DATA SHEET**

**INSTRUCCIONES**

Once the informed consent has been signed, the patient will be assigned a number that will be the result of adding to the hospital's postal code, three digits consecutively and in ascending order, starting with 01. Thus, for example, the first patient at Elda hospital will be patient number: 03600-001  
In the bronchoscopy unit of each respiratory department involved, a list will be kept with the identification of each patient in case it is necessary, but only the patient's number will be shown on the data collection sheet as a unique identifier.

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The following entities and researchers are collaborating in the study

- 1. Universidad Miguel Hernández:**  
Laboratorio de Micología Médica: MF. Colom y C. Ferrer
- 2. Universidad de Alicante:**  
Laboratorio de Microbiología: J. Antón y E. Rubio
- 3. Hospital Universitario del Vinalopó**  
Servicio de neumología: B. Amat; B. Gálvez
- 4. Hospital General Universitario de Alicante**  
Servicio de neumología: C. Fernández
- 5. Hospital General Universitario de Elda:**  
Servicio de Neumología: D. Orts y E. Llorca
- 6. Hospital Universitario Clínico de Valencia:**  
Servicio de Neumología: J. Franco y V. Esteban

**Head of research in each hospital:**

ELDA HOSPITAL: Dr. David Orts; ALICANTE HOSPITAL: Dra. Cleofé Fernández; VINALOPÓ HOSPITAL: Dra. Beatriz Amat; VALENCIA CLINICO HOSPITAL: Dr. José Franco

**PULMONARY FUNGAL MICROBIOTA STUDY**

**DATA COLLECTION SHEET**

PATIENT NUMBER

SEX: M F

|  |  |  |  |  |   |  |  |  |
|--|--|--|--|--|---|--|--|--|
|  |  |  |  |  | - |  |  |  |
|--|--|--|--|--|---|--|--|--|

AGE (years)

DATE OF THE TEST (dd/mm/yyyy)

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

|  |  |   |  |  |   |  |  |  |  |
|--|--|---|--|--|---|--|--|--|--|
|  |  | - |  |  | - |  |  |  |  |
|--|--|---|--|--|---|--|--|--|--|

PLACE OF BIRTH (town/province/country)

PLACE OF RESIDENCE (town/province/country):

SINCE YEAR:

PROFESSION/SPECIAL RISK ACTIVITIES (exposure to birds, plant detritus, industrial contaminants):

HAVE YOU TRAVELLED OUTSIDE SPAIN? ☐ YES ☐ NO

- PLACE: YEAR:

- PLACE: YEAR:

- PLACE: YEAR:

PNEUMOLOGICAL DIAGNOSIS (check all that apply) :

|                          |                        |                          |                            |
|--------------------------|------------------------|--------------------------|----------------------------|
| <input type="checkbox"/> | COPD                   | <input type="checkbox"/> | PULMONARY METASTASES       |
| <input type="checkbox"/> | BRONCHIECTASIAS        | <input type="checkbox"/> | ENDOBRONCHIAL FOREIGN BODY |
| <input type="checkbox"/> | ILD                    | <input type="checkbox"/> |                            |
| <input type="checkbox"/> | BRONCHOGENIC CARCINOMA | <input type="checkbox"/> |                            |
| <input type="checkbox"/> | OTHERS (specify):      |                          |                            |

**Head of research in each hospital:**

ELDA HOSPITAL: Dr. David Orts; ALICANTE HOSPITAL: Dra. Cleofé Fernández; VINALOPÓ HOSPITAL: Dra. Beatriz Amat; VALENCIA CLINICO HOSPITAL: Dr. José Franco

IMMUNEDEPRESSION:            YES                    NO  
DIAGNOSTIC CODE ID (see below):

IF OTHERS PLEASE, SPECIFY:

ANTIMICROBIAL DRUGS CONSUMED IN THE LAST MONTH (DOSE AND TIME):

BRONCHUS IN WHICH THE BAL SAMPLE IS TAKEN:

AMOUNT INSTILLED:

QUANTITY COLLECTED:

QUANTITY PROCESSED FOR STUDY:

| IMMUNO-DEPRESSION CODES |                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------|
| 01                      | Neutropenia (< 500/mm <sup>3</sup> ) lasting > 10 days in the last moth                                     |
| 02                      | Prolonged steroid treatment (> 20 mg/day for > 3 weeks or > 700 mg prednisone in total in the last 2 months |
| 03                      | Immunosuppressive treatment during the last 3 months                                                        |
| 04                      | Solid organ transplant carrier                                                                              |
| 05                      | Hematopoietic transplant carrier.                                                                           |
| 06                      | Hematological neoplasia in the last year                                                                    |
| 07                      | Non-hematological neoplasia in the last year                                                                |
| 08                      | Chemotherapy treatment in the last 6 months                                                                 |
| 09                      | OTHER (please, specify)                                                                                     |