

Materials List for

Monitoring Neutrophil Elastase and Cathepsin G Activity in Human Sputum Samples

Dario L. Frey^{1,2}, Matteo Guerra^{1,2,3,4}, Marcus A. Mall^{1,2,5,6,7}, Carsten Schultz^{1,3,8}

¹Translational Lung Research Center Heidelberg (TLRC), German Center for Lung Research (DZL) ²Dept. of Translational Pulmonology, University of Heidelberg ³Molecular Medicine Partnership Unit (MMPU), European Molecular Biology Laboratory (EMBL), University of Heidelberg ⁴Faculty of Biosciences, Collaboration for Joint Ph.D. Degree between EMBL and Heidelberg University, University of Heidelberg ⁵Dept. of Pediatric Pulmonology, Immunology and Critical Care Medicine, Charité – Universitätsmedizin Berlin ⁶Berlin Institute of Health (BIH) ⁷German Center for Lung Research (DZL), Associated Partner Site, Berlin ⁸Dept. of Chemical Physiology and Biochemistry, Oregon Health and Science University

* These authors contributed equally

Corresponding Authors

Marcus A. Mall
marcus.mall@charite.de

Carsten Schultz
schulcar@ohsu.edu

Citation

Frey, D.L., Guerra, M., Mall, M.A., Schultz, C. Monitoring Neutrophil Elastase and Cathepsin G Activity in Human Sputum Samples. *J. Vis. Exp.* (171), e62193, doi:10.3791/62193 (2021).

Date Published

May 21, 2021

DOI

10.3791/62193

URL

jove.com/video/62193

Materials

| Name | Company | Catalog Number | Comments |
|---|---|------------------|-------------|
| 100 µm Nylon cell strainer | Corning Inc. | 431752 | |
| 2300 EnSpire (Multilabel Plate Reader) | PerkinElmer | | |
| 35x10mm Dish, Nunclon Delta | Thermo Fisher Scientific | 150318 | |
| 40 µm Nylon cell strainer | Corning Inc. | 431750 | |
| 50 mL tubes | Sarstedt | 10535253 | |
| 7-AAD, viability dye | Bio Legend | 420404 | 5 µL/100 µL |
| Balance | OHAUS Instruments (Shanghai) Co., Ltd. | PR124 | |
| BD Falcon Round-Bottom Tubes 5 mL | BD Bioscience | 352054 | |
| BD LSRFortessa cell analyzer | BD Bioscience | | |
| black flat bottom 96 well half area plate | Corning Life Science | 3694 | |
| Cathepsin G | Elastin Products Company | SG623 | |
| Cathepsin G Inhibitor I | Merck KGaA | 219372 | |
| Centrifuge 5418R | Eppendorf AG | EP5401000137 | |
| Combitips advanced 1.0 mL | Eppendorf AG | 0030 089 430 | |
| cOMplete proteinase inhibitor | Roche | 11697498001 | |
| Countig chambers improved Neubauer | Glaswarenfabrik Karl Hecht GmbH & Co KG | 40442 | |
| coverslips Ø 25mm | Thermo Fisher Scientific | MENZCB00250RA003 | |
| Cytospin 4 | Thermo Fisher Scientific | | |
| DRAQ5 (nuclear stain) | BioStatus Limited | DR50050 | 1:10000 |
| FACSDiva software, v8.0.1 | BD Bioscience | | |

| | | | |
|--|----------------------------|--------------------|------|
| FcBlock | BD Bioscience | 564219 | |
| Fiji (Fiji Is Just ImageJ) | fiji.sc | | |
| Flow Jo software, v10 | TreeStar | | |
| FluoQ Plugin, v3-97 | | | |
| Heraeus Megafuge 16R | Thermo Fisher Scientific | | |
| Human Sputum Leucocyte Elastase | Elastin Products Company | SE563 | |
| Leica SP8 confocal microscope | Leica Microsystems | | |
| Mini Rock-Shaker | PEQLAB Biotechnologie GmbH | MR-1 | |
| mouse anti-human CD14, Pe-Cy7, clone M5E2 | BD Bioscience | 557742 Lot:8221983 | 1:50 |
| mouse anti-human CD16, AF700, clone 3G8 | BD Bioscience | 557820 Lot:8208791 | 1:50 |
| mouse anti-human CD45, APC-Cy7, clone 2D1 | BD Bioscience | 557833 Lot:8059688 | 1:33 |
| mouse anti-human CD66b, PE/Dazzel 594, clone G10F5 | BioLegend | 305122 Lot:B241921 | 1:50 |
| mSAM | in house | | 2 mM |
| Multipette plus | Eppendorf AG | | |
| NEmo-1 | SiChem | SC-0200 | 1 mM |
| NEmo-2E | SiChem | SC-0201 | 2 mM |
| Pari Boy SX with an LC Sprint jet nebulizer | Pari | 085G3001 | |
| phosphate buffered saline | Gibco | 10010-015 | |
| ROTI Histokitt (mounting medium) | Carl Roth GmbH + Co.KG | 6638.1 | |
| Salbutamol | Teva GmbH | | |
| Sivelestat | Cayman Chemicals | 17779 | |
| Sputolysin | Calbiochem | 560000-1SET | |
| sSAM | in house | | 2 mM |
| SuperFrost Plus Adhesion slides | Thermo Fisher Scientific | 10149870 | |
| Trypan Blue solution | Sigma-Aldrich | T8154 | |