



Oct 05, 2022

Determining biofilm growth amount (dry weight)

Weizhuo.Chen¹, An.Huang¹¹XJTLU

1 Works for me

 Sharedx.doi.org/10.17504/protocols.io.5jyl8jny9g2w/v1 Weizhuo.Chen

DISCLAIMER

DISCLAIMER – FOR INFORMATIONAL PURPOSES ONLY; USE AT YOUR OWN RISK

The protocol content here is for informational purposes only and does not constitute legal, medical, clinical, or safety advice, or otherwise; content added to protocols.io is not peer reviewed and may not have undergone a formal approval of any kind. Information presented in this protocol should not substitute for independent professional judgment, advice, diagnosis, or treatment. Any action you take or refrain from taking using or relying upon the information presented here is strictly at your own risk. You agree that neither the Company nor any of the authors, contributors, administrators, or anyone else associated with protocols.io, can be held responsible for your use of the information contained in or linked to this protocol or any of our Sites/Apps and Services.

ABSTRACT

This protocol will help determine the amount of biofilm grown on carriers.

DOI

dx.doi.org/10.17504/protocols.io.5jyl8jny9g2w/v1

PROTOCOL CITATION

Weizhuo.Chen, An.Huang 2022. Determining biofilm growth amount (dry weight). **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.5jyl8jny9g2w/v1>



LICENSE

————— This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

CREATED

Sep 19, 2022

LAST MODIFIED

Oct 05, 2022

PROTOCOL INTEGER ID

70204

DISCLAIMER:

DISCLAIMER – FOR INFORMATIONAL PURPOSES ONLY; USE AT YOUR OWN RISK

The protocol content here is for informational purposes only and does not constitute legal, medical, clinical, or safety advice, or otherwise; content added to protocols.io is not peer reviewed and may not have undergone a formal approval of any kind. Information presented in this protocol should not substitute for independent professional judgment, advice, diagnosis, or treatment. Any action you take or refrain from taking using or relying upon the information presented here is strictly at your own risk. You agree that neither the Company nor any of the authors, contributors, administrators, or anyone else associated with protocols.io, can be held responsible for your use of the information contained in or linked to this protocol or any of our Sites/Apps and Services.

IPTG induction

- 1 *Escherichia coli* grown overnight was diluted by LB to $OD_{600}=0.4-0.6$.
- 2 IPTG was added to cell culture to 1mM IPTG finally, and incubated 3h at 171 rpm, 37°C in orbital shaking incubator.

Sample preparation

- 3 For each bottle:
 - (1) The total mass of thirty Moving Bed Biofilm Reactor (MBBR) carriers were measured in advance by balance. Record all weights.
 - (2) Cells culture, thirty MBBR carriers and silver nitrate (to 6μM) solution were added into each bottle.
 - (3) Put all bottles into a 37°C incubator.

Prepare 3 flasks for each day and each sample (to minimize accidental error), so you may have, for example, 3 flasks for experiment group and 3 flasks for control group and you

want to test for 5 days. This will eventually cost you 30 flasks in total.

Hot dry weight measurement

- 4 For each day,
 - (1) MBBR carriers were dried by oven at 60°C.
 - (2) Paddings were cooled to room temperature.
 - (3) Total mass of thirty MBBR paddings were measured.Repeat steps above until weight did not change. Record the weight.
- 5 The variation of MBBR carrier mass could be calculated, thus indicating the accumulated biomass (biofilm) on the carriers.