



TFQ-MAP-LOPIT-Yurchenko-002

**BIOSCIENCE TECHNOLOGY FACILITY  
METABOLOMICS AND PROTEOMICS LABORATORY (BTF-MAP lab)****QUOTATION**

<b>Quotation No.</b>	TFQ-MAP-LOPIT-Yurchenko-002
<b>Date:</b>	07 <sup>th</sup> December 2023
<b>Customer name:</b>	Professor Vyacheslav Yurchenko
<b>Organisation:</b>	University of Ostrava Dvořákova 7, 701 03 Ostrava, Czech Republic vyacheslav.yurchenko@osu.cz
<b>TF Contact:</b>	Adam Dowle adam.dowle@york.ac.uk

1. Project Name

LOPIT experiment (50% of the total cost)

2. Project Description, Methods, and Outputs

Four replicate experiments comprising subcellular-fractionated protein samples will be provided for processing. Each fraction will be reduced, alkylated, and digested with trypsin. Resulting peptides will be labelled with TMT reagents and combined before off-line high pH C18 fractionation into 12 fractions for LC-MS/MS. For a total of 4 experiments x 12 fractions, this represents 48 multiplexed samples for subsequent analysis.

Each sample will be analysed using 120 min LC-MS/MS acquisitions by C18 reversed-phase nanoUPLC coupled via nanoelectrospray to a Thermo Orbitrap Exploris 480 mass spectrometer. Data dependent acquisition of spectra will be acquired to generate TMT reporter ions. Data analysis will include peak-picking and database searching against an appropriate proteomic database. Identification false discovery rate will be assessed against a search of the equivalent reversed database. TMT reporter ion intensities will be extracted for identified peptides and used as proxies for relative protein quantification between samples. Output reporter ion intensities and IDs will be used as inputs in our customized R pipelines for LOPIT analysis; i.e. to identify subcellular associations between groups of identified proteins.

We understand that the cost for this experiment is being shared equally with a second party, Professor Julius Lukes at the Biology Centre CAS, Institute of Parasitology, Branisovska 1160/31, Ceske Budejovice, post code 370 05, Czech Republic. They will receive an identical copy of this quotation. As we calculate costs on the basis of each sample analysed by LC-MS/MS, final costs for this quote are calculated for  $48 / 2 = 24$  samples, but results will be obtained from all 64 samples and will be provided to both parties.

**TFQ-MAP-LOPIT-Yurchenko-002****3. Timeframe and Outcomes**

Proteomic analysis will be performed as defined in Project Description, Methods, and Outputs. Replicate experiments will be analysed independently but the results may be combined in LOPIT analysis.

The TF will endeavour to return the results within approximately 12 weeks from receiving the samples, acceptance of the quotation and provision of a purchase order.

Turnaround times can be affected by unforeseen circumstances, such as instrument breakdown and staff illness.

The TF offers no guarantee regarding the number of high-confidence identifications that will be obtained. The success of LOPIT will also depend on the variation in subcellular fractionation between experiments, and also the number of matches to known subcellular marker proteins.

TF staff will endeavour to provide upon request basic descriptions and explanations of the methodologies used in the analysis and the results obtained. A description of the methods and materials that is suitable for use in a publication will be supplied on request.

The TF accepts no responsibility for any use of the results provided, or for any interpretation attached to the results. While TF staff can offer an informed opinion or personal interpretation of any results, these should always be tempered by the customer's own judgement.

**4. Specific Customer Instructions and Obligations****4.1. Sample provision**

Ideally a minimum of 20 µg of protein should be provided for each sample. Analysis can be performed on less material but will likely impact on number of identifications and quantifications resulting from such. Samples provided in solution should be shipped on dry ice to the following address.

Samples should be provided in a buffer compatible with downstream LC-MS/MS analysis. As such, the buffer should be free of polymers and detergents (other than SDS) and free of excess exogenous proteins. It is strongly recommended that the contents of the buffer in which samples are provided is discussed in advance with the BTF-MAP lab.

## TFQ-MAP-LOPIT-Yurchenko-002

Samples should be shipped to:

Goods Inwards  
Metabolomics & Proteomics Lab  
Department of Biology  
Wentworth Way  
University Road  
Heslington  
York YO10 5DD  
UK

International sample shipment should state that the **contents are of zero economic value**, with the following wording on the shipment: **“Import under Goods for Test CPC 40 00 C33 - relief claimed”**

#### 4.2. Health & Safety Requirements

The customer warrants that the material provided does not pose any health hazards and, if this is not the case, must specify the potential risks before any samples are shipped.

#### 4.3. Special requirements and additional charges

The customer must specify before any analysis begins the following information:

- An appropriate database to search against – this could be a publicly available UniProt database or another database that is currently installed on our server. Alternatively, a database or FASTA format file of your own specification. This must be provided in advance.
- For LOPIT workflows, a list of expected marker proteins for each subcellular fraction. These must be represented in the specified database. We recommend up to 40 markers per subcellular fraction – the more the better for the machine learning that is used in the LOPIT procedure.
- Additional outputs and reports – Provision of additional summaries, reports, peak lists, or additional data processing can incur an additional charge.

If these requirements are not specified in advance or are changed by the client retrospectively the work may be delayed, or data analysis may require repeating, which could incur an additional charge to the client.

## TFQ-MAP-LOPIT-Yurchenko-002

## 4.4. Billing and payment

*The following information must be supplied before any work can commence:*

- A valid purchase order from the customer's institution (Electronic versions are sufficient.)
- The VAT registration number of the institution (if within the EU)
- A contact name and the address of the institutions finance office, to whom an invoice should be sent
- Any other information that is required for inclusion with invoice (Please note that a charge must be made for re-issue of an invoice that is necessitated by customer changes or additional requests.)

Invoices carry the standard University of York conditions, which include payment within 30 days. Invoices can only be issued in GBP.

5. Licensing and Intellectual Property

The TF will use in-house know-how and expertise to undertake the work. The work will be undertaken using third party consumables and software and the University of York provides no rights for the customer to subsequently use such consumables and software in the future. All rights to the outputs, including intellectual property, reside with the customer. The TF requests that publications include an explicit acknowledgement of the use of the facility. Authorship is anticipated only in cases where TF outputs form a substantial portion of the published work or where significant intellectual input was made.

6. Summary of TF Charges

<b>Number of samples:</b> 24	<b>Charge:</b> £8,536.18
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## **General Terms and Conditions of Contract Services Provided by the Bioscience Technology Facility**

These are the General Terms and Conditions which, together with the Quotation issued by the University of York, shall jointly constitute the Agreement between the University of York and the Client, which shall be the entire Agreement between the parties for the provision of Services. Any terms and conditions printed on the Client's order forms or in the correspondence of either party or elsewhere or implied by trade, custom or course of dealing are hereby expressly excluded.

Services provided by the University of York include, but are not limited to, scientific and technical research, analysis, equipment access, consultancy and training.

### **1. Information**

The Client shall take all reasonable steps to ensure, and hereby warrants, that, so far as it is aware, any information provided to the University of York pursuant to the Agreement shall be complete, accurate and not misleading. The Client acknowledges and agrees that, in performing its obligations under this Agreement, the University of York will be relying upon information supplied directly or relating to the Services and the Client warrants that all information supplied does not and will not infringe the rights of any third party or other rights whatsoever.

### **2. Provision of Samples**

The Client shall provide any samples required to perform the Services by the agreed time and warrants that they will be of sufficient quality and quantity to enable the Services to be performed.

The Client shall provide all relevant safety data relating to hazardous samples. The Client shall ensure that hazardous samples are supplied to the University of York in appropriate packaging and that these packages and the samples contained therein are identified with the appropriate safety labelling.

The Client shall inform the University of York of any potential ethical considerations directly or indirectly associated with the samples, for example any samples that comprise or relate to human tissues, animal experimentation, cosmetics, tobacco products, materials associated with or intended for use as weapons, or materials subject to export control laws.

### 3. Confidentiality

The University of York and the Client shall keep confidential and shall not, without the prior written consent of the other, disclose to any person the existence or nature of the Services to be performed or any confidential information acquired from each other in connection with the Services requested. The University of York and the Client shall be entitled to disclose such information to employees involved in providing the Services, as long as they are bound by obligations of secrecy no less strict than contained herein.

This clause will not apply to information:-

- (a) which was already in the public domain at the time of disclosure otherwise than through a breach of the obligations hereunder;
- (b) which was legally in the possession of the relevant party prior to such acquisition; or
- (c) where disclosure is required by law.

None of the material or information provided by the University of York to the Client shall be used by the Client to convey any connection with the University of York, or any endorsement or implied approval of, or on behalf of, the University of York of any aspect of the Client's business or products except for disclosures required by regulatory submissions or with the prior written consent of the University of York.

Each party's obligations of confidentiality will survive expiration or termination of this Agreement and will continue for a period of five (5) years.

### 4. The Services

In performing the Services, the University of York shall exercise all reasonable care and due diligence but shall not be held responsible or liable in respect to any sample provided or of the use to which information supplied to the Client is put. The Client acknowledges and agrees that any evaluation, use, application, and the consequences of such information is at the sole discretion of the Client and that the Client shall be solely responsible for the same.

Except as expressly provided for in this Agreement, there are no warranties, expressed or implied, and, in particular, all conditions and warranties, which would otherwise be implied by statute or under common law, are hereby excluded.

Subject as provided below and to the Unfair Contract Terms Act 1977, the University of York shall not be liable for any and all actions, claims, demands, losses, damages, costs, charges, expenses or any other liabilities whatsoever suffered or incurred by the Client or any third party in connection with or arising out of the Services, including, without limitation, any loss of profits or contracts or any other indirect or consequential loss or damage whatsoever.

The Client shall be liable to the University of York for any actions, claims, demands, damages, costs, charges expenses (including professional fees and expenses) and other liabilities the University of York incurs arising directly from any breach by the Client of any of the terms of this Agreement, but expressly excluding indirect losses and loss of profit.

## 5. Termination

Either party may terminate this Agreement forthwith by written notice to the other party if:-

- (a) the other party commits a material breach of any of its obligations hereunder and, if capable of remedy, does not remedy such breach within 30 days of receiving such written notice; or
- (b) the other party becomes bankrupt or enters into liquidation or is made the subject of an administrative order to have a receiver appointed over its assets (or any part thereof) or ceases to carry on business.

In the event of any termination of this Agreement, all accrued charges, expenses and other sums shall be invoiced and, together with all unpaid invoices, shall become immediately due and payable (including interest). The Client shall fully and effectively indemnify the University of York against all losses, costs (including cost of labour and material used), damages, charges and expenses arising as a result of such termination.

## 6. Data Ownership

Until payment of all sums due by the Client to the University of York under this Agreement, all data arising during the course of the Services will remain the property of the University. Upon such payment, the ownership of such data, as relates exclusively to the Services, shall become the property of the Client.

## 7. Intellectual Property

Each party shall retain all rights to its background information, know-how and methods. Unless otherwise agreed, all intellectual property directly arising from the provision of Services shall belong to the Client provided all sums due to the University of York have been paid. Any discoveries or improvements in the University of York's background information arising from the provision of the Services will belong to the University of York. The use of any intellectual property in the provision of the Services by the University of York does not imply any rights for the Client to subsequently use any such intellectual property.

## 8. Disposal of Materials

Materials provided by the Client in connection with this Agreement will only be used in connection with the Services. Unless otherwise agreed, any excess samples will only be guaranteed to be retained for one month after the completion of the Services for non-perishable goods and for ten days after the completion of the Services for perishable goods. Data obtained will only be guaranteed to be retained for one month after the completion of the Services.

## 9. Timing

Generally Services are provided to timescales agreed with the Client. The University of York will use its reasonable endeavour to keep to these agreed timescales but shall not be liable for any delay in meeting or failing to meet its obligations under the Agreement arising from any course outside its control. In the event of any such delay, the period for the performance of the Agreement shall be extended accordingly.

## 10. Payment

The University of York will invoice the Client as outlined in the Quotation. The Client will settle all invoices within thirty (30) days of receipt of the invoice.

## 11. VAT on Supply of Contract Services to UK Higher Educational Institution

The University of York is required to charge VAT on the supply of all contract services to UK Higher Educational Institutions unless the services are being provided as part of a formal research collaboration that involves a joint grant application between the University of York and another UK Higher Educational Institution that involves funds provided entirely by a charity or from voluntary contributions, in which case the interaction will be outside the scope of VAT.

In cases where a zero-rating application form is submitted, the following is noted:

- The Finance Department, University of York will have the final decision as to whether the zero-rating application is considered to be appropriate and for eligible goods. As part of these Terms & Conditions, the Client agrees to pay the appropriate level of VAT in cases where their submitted zero-rating certificate is not deemed to be appropriate.
- The Finance Department, University of York has ruled that the following, commonly provided services, are not considered to be an eligible supply as a "medicinal product", "ingredient", or "substance" as defined in Group 15 items 9 and 10A:
  - A report (whether electronic or paper).
  - The provision of a DNA sequence.
  - **The provision of a protein identity, or sequence, or similar.**

VAT will be charged on all of these services, irrespective of whether the work is being undertaken as part of a medical research programme.

## 12. Complaints

Complaints regarding the Services should be addressed initially to the person who provided the initial quotation. The parties shall attempt in good faith to resolve promptly any dispute



arising out of or relating to the Services by negotiation between managers who have authority to settle the dispute.

### **13. Ethical Considerations and Limitations**

The Client will inform the University of York of any potential ethical considerations that may be associated with the work. The University of York is generally unable to undertake any work associated with or sponsored by the manufacturers and suppliers of tobacco products. Examples of other potential areas where the Client must inform the University of York of possible ethical considerations and which might require formal approval from the University of York's Biology Ethics Committee include the use of human tissues, samples derived from animal experimentation, cosmetics, and materials associated with or intended for use as weapons.

### **14. Miscellaneous**

None of the rights or obligations arising hereunder may be assigned, transferred or in any way disposed of by the Client.

No variation or purported variation in this Agreement shall take effect unless made in writing and signed by the authorised representative of each party.

Any notice required to be given by either party in accordance with these conditions may be given by facsimile or by post. If given by facsimile, notice shall be deemed to be served when the sender machine shows the facsimile to have been sent. If given by post, notice shall be deemed to be served 48 hours after posting.

If any of the terms and conditions of this Agreement (or any part thereof) shall be found to be invalid, ineffective or unenforceable, such term or condition shall not effect any other term or condition and all terms and conditions (or parts thereof) not so affected shall remain in full force and effect.

No one who is not a party to this Agreement is intended to or may benefit from its terms because of the Contracts (Rights of Third Parties) Act 1999.

The Agreement shall be governed by the laws of England and the parties hereto hereby submit to the jurisdiction of the English courts. If required, the Client undertakes to appoint an agent for service of process in England and agrees that, should it fail to do so, the University of York shall be entitled to appoint such an agent on its behalf.