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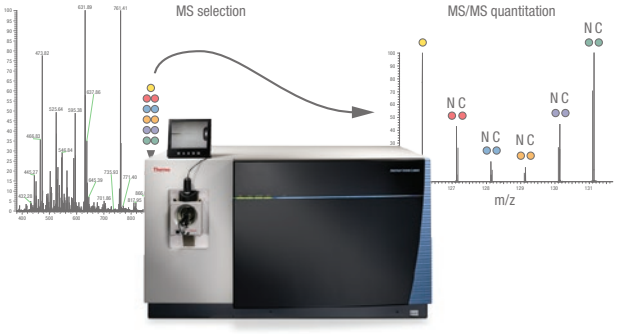
Call for applications

4th annual Thermo Scientific Tandem Mass Tag Research Award

Receive up to $10,000 worth of these products free*



About the research awards

- Research awards include Thermo Scientific™ mass spectrometry (MS) reagents and Thermo Scientific™ Tandem Mass Tag™ (TMT™) labeling reagents
- Applicants must be enrolled in doctoral or postdoctoral programs through February 28, 2018
- Applications accepted September 7, 2017–February 28, 2018
- For more information and to download the application, go to **thermofisher.com/tmtgrant**

Grant award levels

- **Gold**—$10,000 • **Silver**—$7,500 • **Bronze**—$5,000

Describe how you could use Thermo Scientific™ TMT reagents in conjunction with other MS reagents in your research for the chance to receive one of three awards of up to $10,000 worth of these reagents.*

The top three recipients will be selected by a panel of judges from Thermo Fisher Scientific and Proteome Sciences, based on the innovation and potential impact of the applicant's proposed use of our tandem mass tag (including amine-, sulfhydryl-, or carbonyl-reactive) labeling reagents in conjunction with other MS reagents. Award recipients will be recognized during an event at the American Society for Mass Spectrometry (ASMS) annual conference in San Diego, California, June 3–7, 2018.

About the technology

A successful proteomics experiment requires the integration of proper sample preparation, instrumentation, and software. In addition to these tools, a proteomics scientist also needs to determine a strategy to achieve the intended goals. We offer a variety of solutions for protein mass spectrometry, sample preparation, and protein quantitation.

Isobaric chemical tags are powerful tools that enable multiplexed identification and quantitation of thousands of proteins from different samples using tandem mass spectrometry. The TMT labeling reagents contain up to 11 different isobaric compounds that enable up to 11 different protein samples prepared from cells or tissues to be labeled in parallel, and then combined for analysis. In addition to the amine-reactive tags, sulfhydryl- or carbonyl-reactive labeling reagents are available for specific applications. TMT labeling reagents consist of a mass normalizer reactive group that covalently labels the target of interest, and a mass reporter for relative quantitation. During the second MS/MS fragmentation, each isobaric tag produces a unique reporter ion signature for multiplexed quantitation. For each sample, a unique reporter mass (i.e., TMT11plex Tag, 126–131 Da) in the low-mass region of the high-resolution MS/MS spectrum is used to measure relative protein expression levels during peptide fragmentation and tandem mass spectrometry. Peptide quantitation is then accomplished by comparing the intensities of the 11 reporter ions in the MS/MS spectra.

The tags have been optimized for use with high-resolution MS/MS platforms, such as the Thermo Scientific™ Orbitrap Fusion™ Lumos™ series, Orbitrap Elite™, and Q Exactive™ series with data analysis fully supported by Thermo Scientific™ Proteome Discoverer™ 2.2 Software.

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The following products are eligible for the Thermo Scientific Tandem Mass Tag Research Award.

Calibration solutions and standards	Quantity	Cat. No.
Pierce Peptide Retention Time Calibration Mixture, 0.5 pmol/µL	50 µL	88320
Pierce Peptide Retention Time Calibration Mixture, 5 pmol/µL	200 µL	88321
Pierce LTQ ESI Positive Ion Calibration Solution	10 mL	88322
Pierce LTQ Velos ESI Positive Ion Calibration Solution	10 mL	88323
Pierce ESI Negative Ion Calibration Solution	10 mL	88324
Pierce Triple Quadrupole Calibration Solution	10 mL	88325
Pierce Triple Quadrupole Calibration Solution, Extended Mass Range	10 mL	88340
Pierce Reserpine Standard for LC-MS	5 x 1 mL	88326
Pierce HeLa Protein Digest Standard	20 µg	88328
Pierce HeLa Protein Digest Standard	5 x 20 µg	88329
Pierce BSA Protein Digest Standard, LC-MS Grade	1 nmol	88341
Pierce 6 Protein Digest Standard, Equimolar, LC-MS Grade	100 pmol	88342
Pierce Digestion Indicator for Mass Spectrometry	10 µg	84841
NEW Pierce Intact Protein Standard Mix	1 x 76 µg	A33526
NEW Pierce Intact Protein Standard Mix	5 x 76 µg	A33527
Protein quantitation reagents—SILAC	**Quantity**	**Cat. No.**
NEW Pierce SILAC Protein Quantitation Kit (Lys-C)—RPMI 1640	Kit	A33971
NEW Pierce SILAC Protein Quantitation Kit (Lys-C)—DMEM	Kit	A33969
NEW Pierce SILAC Protein Quantitation Kit (Lys-C)—DMEM:F12	Kit	A33970
L-Arginine-HCl	50 mg	89989
L-Arginine-HCl	500 mg	88427
$^{13}C_6$ L-Arginine-HCl	50 mg	88210
$^{13}C_6$ L-Arginine-HCl	500 mg	88433
$^{13}C_6$ $^{15}N_4$ L-Arginine-HCl	50 mg	89990
$^{13}C_6$ $^{15}N_4$ L- Arginine-HCl	500 mg	88434
L-Lysine-2HCl	50 mg	89987
L-Lysine-2HCl	500 mg	88429
$^{13}C_6$ L-Lysine-2HCl	50 mg	89988
$^{13}C_6$ L-Lysine-2HCl	500 mg	88431
$^{13}C_6$ $^{15}N_2$ L-Lysine-2HCl	50 mg	88209
$^{13}C_6$ $^{15}N_2$ L-Lysine-2HCl	500 mg	88432
L-Lysine-2HCl (4,4,5,5-D_4)	50 mg	88437
L-Lysine-2HCl (4,4,5,5-D_4)	500 mg	88438
NeuCode Lysine-080 (3,3,4,4,5,5,6,6-D8 L-Lysine-2HCl)	25 mg	A36750
NEW NeuCode Lysine-080 (3,3,4,4,5,5,6,6-D8 L-Lysine-2HCl)	50 mg	A33613
NEW NeuCode Lysine-080 (3,3,4,4,5,5,6,6-D8 L-Lysine-2HCl)	500 mg	A33614
NEW NeuCode Lysine-440 (L-Lysine: 2HCL (3,4,5,6-$^{13}C_4$, 5,5,6,6-D4, 98%)	25 mg	A36752
NEW NeuCode Lysine-521 (L-Lysine:2HCL)	25 mg	A36753
NEW NeuCode Lysine-341 ($^{13}C_3$ $^{2}H_4$ $^{15}N_1$ L-Lysine-2HCl)	25 mg	A36851

Protein quantitation reagents—SILAC (continued)	Quantity	Cat. No.
NEW Neucode Lysine-202 ($^{13}C_2$ $^{15}N_2$ L-Lysine-2HCl)	25 mg	A36754
NEW NeuCode 4-plex Lysine Bundle (NeuCode Lysine-080, NeuCode Lysine-602, NeuCode Lysine-440, NeuCode Lysine-521)	1 x 25 mg/ amino acid	A36755
L-Leucine	500 mg	88428
$^{13}C_6$ L-Leucine	50 mg	88435
$^{13}C_6$ L-Leucine	500 mg	88436
L-Proline	115 mg	88211
L-Proline	500 mg	88430
NEW RPMI Media for SILAC	500 mL	88365
NEW RPMI Media for SILAC	6 x 500 mL	A33823
Powdered RPMI Media for SILAC Sufficient to prepare 10 L of medium	104 g	88426
NEW DMEM Media for SILAC	500 mL	88364
NEW DMEM Media for SILAC	6 x 500 mL	A33822
Powdered DMEM Media for SILAC	135 g	88425
NEW DMEM:F12 (1:1) Media for SILAC	500 mL	88370
NEW MEM for SILAC	500 mL	88368
NEW IMDM for SILAC	500 mL	88367
Protein quantitation reagents—amine-reactive tandem mass tag reagents	**Quantity**	**Cat. No.**
NEW TMT10plex Isobaric Label Reagent Set plus TMT11-131C Label Reagent	1 x 5 mg/tag	A34808
NEW TMT11-131C Label Reagent	1 x 5 mg	A34807
TMT10plex Isobaric Label Reagent Set	10 rxn kit	90110
TMT10plex Isobaric Label Reagent Set	30 rxn kit	90111
TMT10plex Isobaric Mass Tag Labeling Kit	30 rxn kit	90113
TMT10plex Isobaric Label Reagent Set	60 rxn set	90406
TMTsixplex Isobaric Label Reagent Set	6 rxn kit	90061
TMTsixplex Isobaric Label Reagent Set	12 rxn kit	90062
TMTsixplex Isobaric Mass Tagging Kit	35 rxn kit	90064
TMTsixplex Isobaric Label Reagent Set	30 rxn kit	90066
TMTsixplex Isobaric Label Reagent Set	72 rxn kit	90068
TMTduplex Isobaric Mass Tagging Kit	15 rxn kit	90063
TMTduplex Isobaric Label Reagent Set	10 rxn kit	90065
TMTduplex Isotopic Label Reagent Set	10 rxn kit	90060
TMTzero Label Reagent	5 x 0.8 mg	90067
Protein quantitation reagents—cysteine-reactive tandem mass tag reagents	**Quantity**	**Cat. No.**
iodoTMTzero Label Reagent	5 x 0.2 mg	90100
iodoTMTsixplex Label Reagent Set	6 rxn set	90101
iodoTMTsixplex Label Reagent Set	30 rxn set	90102
iodoTMTsixplex Isobaric Mass Tag Labeling Kit	30 rxn kit	90103
Protein quantitation reagents—carbonyl-reactive tandem mass tag reagents	**Quantity**	**Cat. No.**
aminoxyTMTzero Label Reagent	6 x 0.2 mg	90400
aminoxyTMTsixplex Label Reagent Set	6 rxn set	90401
aminoxyTMTsixplex Label Reagent Set	30 rxn set	90402

For more information about our mass spectrometry reagents, go to
thermofisher.com/msreagents

TMT accessories and reagents	Quantity	Cat. No.
❑ Anti-TMT Antibody (25D5)	0.1 mL	90075
❑ Immobilized Anti-TMT Antibody Resin	6 mL	90076
❑ TMT Elution Buffer	20 mL	90104
❑ 1 M Triethylammonium Bicarbonate (TEAB)	50 mL	90114
❑ 50% Hydroxylamine	5 mL	90115

Protein quantitation reagents—heavy protein expression	Quantity	Cat. No.
❑ 1-Step Heavy Protein IVT Kit	8 rxn kit	88330
❑ 1-Step Heavy Protein IVT Kit	40 rxn kit	88331

Sample lysis and protein extraction	Quantity	Cat. No.
❑ Pierce Mass Spec Sample Prep Kit for Cultured Cells	20 rxn kit	84840
❑ Mem-PER Plus Membrane Protein Extraction Kit	1 kit	89842
❑ Subcellular Protein Fractionation Kit for Cultured Cells	1 kit	78840

Protein enrichment—immunoprecipitation	Quantity	Cat. No.
❑ Pierce MS-Compatible Magnetic IP Kit (Streptavidin)	40 rxn kit	90408
❑ Pierce MS-Compatible Magnetic IP Kit (Protein A/G)	40 rxn kit	90409
❑ Pierce Antibody Biotinylation Kit for IP	8 rxn kit	90407
❑ Low Protein Binding Microcentrifuge Tubes, 1.5 mL	250 tubes	90410
❑ Low Protein Binding Microcentrifuge Tubes, 1.5 mL	10 x 250 tubes	90411

Active site peptide labeling and enrichment	Quantity	Cat. No.
❑ Pierce Kinase Enrichment Kit with ATP Probe	16 rxn kit	88310
❑ ActivX Desthiobiotin-ATP Probe	16 x 12.6 µg	88311
❑ Pierce Kinase Enrichment Kit with ADP Probe	16 rxn kit	88312
❑ ActivX Desthiobiotin-ADP Probe	16 x 9.9 µg	88313
❑ Pierce GTPase Enrichment Kit with GTP Probe	16 rxn kit	88314
❑ ActivX Desthiobiotin-GTP Probe	16 x 12.9 µg	88315
❑ ActivX Azido-FP Serine Hydrolase Probe	3.5 µg	88316
❑ ActivX Desthiobiotin-FP Serine Hydrolase Probe	4.6 µg	88317
❑ ActivX TAMRA-FP Serine Hydrolase Probe	6.8 µg	88318

MS-cleavable crosslinkers	Quantity	Cat. No.
❑ NEW DSSO (disuccinimidyl sulfoxide)	10 x 1 mg	A33545
❑ NEW DSBU (BuUrBu, disuccinimidyl dibutyric urea)	10 × 1 mg	A35459

Abundant protein removal	Quantity	Cat. No.
❑ Pierce Albumin Depletion Kit	24 rxn kit	85160
❑ NEW High-Select HSA/Immunoglobulin Depletion Mini Spin Columns	6 columns	A36365
❑ NEW High-Select HSA/ Immunoglobulin Depletion Mini Spin Columns	24 columns	A36366
❑ NEW High-Select HSA/Immunoglobulin Depletion Midi Spin Columns	10 columns	A36367
❑ NEW High-Select HSA/Immunoglobulin Depletion Resin	50 mL	A36368
❑ NEW High-Select Top14 Abundant Protein Depletion Mini Spin Columns	6 columns	A36369
❑ NEW High-Select Top14 Abundant Protein Depletion Mini Spin Columns	12 columns	A36370
❑ NEW High-Select Top14 Abundant Protein Depletion Midi Spin Columns	10 columns	A36371
❑ NEW High-Select Top14 Abundant Protein Depletion Resin	50 mL	A36372

Protein desalting	Quantity	Cat. No.
❑ Zeba Micro Spin Desalting Columns, 7K MWCO, 75 µL	25 columns	89877
❑ Zeba Spin Desalting Columns, 7K MWCO, 0.5 mL	25 columns	89882
❑ Zeba Spin Desalting Columns, 7K MWCO, 2 mL	25 columns	89890
❑ Zeba Spin Desalting Columns, 7K MWCO, 5 mL	25 columns	89892
❑ Zeba Spin Desalting Columns, 7K MWCO, 10 mL	25 columns	89894
❑ Zeba 96-well Spin Desalting Plates, 7K MWCO	2 plates	89807
❑ Zeba Micro Spin Desalting Columns, 40K MWCO, 75 µL	25 columns	87764
❑ Zeba Spin Desalting Columns, 40K MWCO, 0.5 mL	25 columns	87766
❑ Zeba Spin Desalting Columns, 40K MWCO, 5 mL	25 columns	87771
❑ Zeba Spin Desalting Columns, 40K MWCO, 10 mL	25 columns	87773
❑ Zeba 96-well Spin Desalting Plates, 40K MWCO	2 plates	87774

Protein concentration	Quantity	Cat. No.
❑ Pierce Protein Concentrators PES, 3K MWCO, 0.5 mL	25 units	88512
❑ Pierce Protein Concentrators PES, 10K MWCO, 0.5 mL	25 units	88513
❑ Pierce Protein Concentrators PES, 30K MWCO, 0.5 mL	25 units	88502
❑ Pierce Protein Concentrators PES, 100K MWCO, 0.5 mL	25 units	88503

Protein digestion—mass spec–grade proteases, reagents, and kits	Quantity	Cat. No.
❑ Trypsin Protease, MS Grade	5 x 20 µg	90057
❑ Trypsin Protease, MS Grade	5 x 100 µg	90058
❑ Trypsin Protease, MS Grade	1 mg	90059
❑ Trypsin Protease, MS Grade, Frozen Liquid	100 µg	90305
❑ LysN Protease, MS Grade	20 µg	90300
❑ LysN Protease, MS Grade	5 x 20 µg	90301
❑ LysC Protease, MS Grade	20 µg	90051
❑ AspN Protease, MS Grade	2 µg	90053
❑ GluC Protease, MS Grade	5 x 10 µg	90054
❑ Chymotrypsin (TLCK treated), MS Grade	4 x 25 µg	90056
❑ In-Gel Tryptic Digestion Kit	Kit	89871
❑ In-Solution Tryptic Digestion and Guanidination Kit	Kit	89895
❑ Mass Spec Sample Prep Kit for Cultured Cells	20 rxn kit	84840

Peptide quantitation assays	Quantity	Cat. No.
❑ Pierce Quantitative Colorimetric Peptide Assay	500-assay kit	23275
❑ Pierce Quantitative Fluorometric Peptide Assay	500-assay kit	23290
❑ Peptide Digest Assay Standard (1 mg/mL)	1.5 mL	23295
❑ 96-well Black Plates	25 pack	88378

Phosphopeptide enrichment	Quantity	Cat. No.
❑ High-Select Fe-NTA Phosphopeptide Enrichment Kit	30 rxn kit	A32992
❑ High-Select TiO_2 Phosphopeptide Enrichment Kit	24 rxn kit	A32993
❑ Pierce Magnetic TiO_2 Phosphopeptide Enrichment Kit	96 rxn kit	88811
❑ Pierce Magnetic TiO_2 Phosphopeptide Enrichment Kit	24 rxn kit	88812
❑ Pierce Graphite Spin Columns, 0.5 mL	30 columns	88302

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Peptide fractionation	Quantity	Cat. No.
❑ Pierce High pH Reversed-Phase Peptide Fractionation Kit	12-column kit	84868
❑ Low Protein Binding Microfuge Tubes, 2 mL	250 tubes	88379
❑ Low Protein Binding Microfuge Tubes, 2 mL	10 x 250 tubes	88380

Peptide clean-up	Quantity	Cat. No.
❑ Pierce Detergent Removal Spin Column, 125 µL	25 columns	87776
❑ Pierce Detergent Removal Spin Column, 0.5 mL	25 columns	87777
❑ Pierce Detergent Removal Spin Column, 2 mL	5 columns	87778
❑ Pierce Detergent Removal Spin Column, 4 mL	5 columns	87779
❑ Pierce Detergent Removal Resin	10 mL	87780
❑ Pierce Detergent Removal Spin Plates	2 plates	88304
❑ HiPPR Detergent Removal Spin Column Kit (resin + columns)	5 mL kit	88305
❑ HiPPR Detergent Removal Spin Columns, 0.1 mL	24 columns	88306
❑ HiPPR Detergent Removal 96-well Spin Plates	2 plates	88307
❑ NEW Pierce Peptide Desalting Spin Columns	25 spin columns	89852
❑ NEW Pierce Peptide Desalting Spin Columns	50 spin columns	89853
❑ Pierce C18 Spin Columns	25 columns	89870
❑ Pierce C18 Spin Columns	50 columns	89873
❑ Pierce C18 Tips, 10 µL bed	96 tips	87782
❑ Pierce C18 Tips, 100 µL bed	96 tips	87784
❑ Pierce C18 Spin Tips	96 tips	84850

Ancillary reagents	Quantity	Cat. No.
❑ Trifluoroacetic Acid (TFA), Sequanal Grade	500 mL	28901
❑ Trifluoroacetic Acid, Sequanal Grade	10 x 1 g	28902
❑ Trifluoroacetic Acid, Sequanal Grade	100 g	28903
❑ Trifluoroacetic Acid, Sequanal Grade	10 x 1 mL	28904
❑ Trifluoroacetic Acid, LC-MS Grade	50 mL	85183

Ancillary reagents (continued)	Quantity	Cat. No.
❑ Formic Acid, LC-MS Grade	50 mL	85178
❑ Heptafluorobutyric Acid (HFBA), Sequanal Grade	100 mL	25003
❑ Heptafluorobutyric Acid, HPLC Grade	10 x 1 mL	53104
❑ Acetonitrile (ACN), LC-MS Grade	1 L	51101
❑ Acetonitrile, LC-MS Grade	4 x 1 L	85188
❑ Water, LC-MS Grade	1 L	51140
❑ Water, LC-MS Grade	4 x 1 L	85189
❑ 0.1% Formic Acid (v/v) in Water, LC-MS Grade	1 L	85170
❑ 0.1% Formic Acid (v/v) in Water, LC-MS Grade	4 x 1 L	85171
❑ 0.1% Trifluoroacetic Acid (v/v) in Water, LC-MS Grade	1 L	85172
❑ 0.1% Trifluoroacetic Acid (v/v) in Water, LC-MS Grade	4 x 1 L	85173
❑ 0.1% Formic Acid (v/v) in Acetonitrile, LC-MS Grade	1 L	85174
❑ 0.1% Formic Acid (v/v) in Acetonitrile, LC-MS Grade	4 x 1 L	85175
❑ 0.1% Trifluoroacetic Acid (v/v) in Acetonitrile, LC-MS Grade	1 L	85176
❑ 0.1% Trifluoroacetic Acid (v/v) in Acetonitrile, LC-MS Grade	4 x 1 L	85177
❑ Bond-Breaker TCEP Solution, Neutral pH	5 mL	77720
❑ No-Weigh Dithiothreitol (DTT)	48 tubes	20291
❑ Iodoacetamide (IAM), Single-Use	24 x 9.3 mg	90034
❑ Iodoacetic Acid (IAA)	500 mg	35603
❑ Methyl Methanethiosulfonate (MMTS)	200 mg	23011
❑ N-Ethylmaleimide (NEM)	25 g	23030
❑ CHCA MALDI Matrix, Single-Use	24 x 1 mg	90031
❑ SA MALDI Matrix, Single-Use	24 x 1 mg	90032
❑ DHB MALDI Matrix, Single-Use	24 x 4 mg	90033
❑ MALDI Matrix Sample Pack, Single-Use	24 tubes	90035

To find out more, go to **thermofisher.com/tmtgrant**

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* No purchase necessary to enter or receive a grant. To enter the Thermo Scientific Tandem Mass Tag Research Grant Program (the "Program"), you must submit your Grant Application (the "Application") at **thermofisher.com/tmtgrant** between 12:01 a.m. PT on September 17, 2017, and 11:59 p.m. PT on February 28, 2018. The Program is open only to academic, not-for-profit research institutions or commercial entities in an eligible jurisdiction whose representative has submitted a completed Application. **The person submitting the Application (the "Applicant") is entering on behalf of their employer, which will be the recipient of the grant (the "Grant Recipient").** The Program is open only to doctoral or postdoctoral Applicants who are new or novice users of Thermo Scientific Tandem Mass Tag reagents or Thermo Scientific TMT reagents. Determination of eligibility is at Sponsor's sole discretion. Void in Quebec, Australia, India, and where this promotion or acceptance of a grant is prohibited or restricted by law or subject to registration or other procedures with which Sponsor may not have undertaken. **Individual Health Care Professionals (HCPs) may not participate in this promotion. The term Health Care Professionals or HCPs includes individuals (clinical or non-clinical physicians, physician assistants, nurses, technicians, research coordinators, administrators, and purchasing personnel) and entities (including hospitals, rehabilitation centers, nursing facilities, home health agencies, clinics and group purchasing organizations, managed care organizations, physician group practices, medical directors for health insurance organizations, diagnostic institutions) and their employees and representatives who are involved in the actual provision of health care services.** All grant proposals must be submitted in the English language. Other eligibility restrictions apply. Three Grant Recipients will be selected to receive a product credit for Thermo Scientific tandem mass tag labeling reagents and MS reagents in the amount of $10,000 USD for the first place winner, $7,500 USD for the second place winner, and $5,000 USD for the third place winner (or equivalent in the local currency of the Grant Recipient) (the "Award"). Winners will be selected by a panel of five judges comprised of R&D professionals employed by the Sponsor or Proteome Sciences. Applications will be judged on the following criteria, each worth 33% of the total score:

- Scientific merit: use of novel applications in quantitative proteomics to achieve their goals by using TMT tags and MS reagents
- Significance of use of Thermo Scientific TMT tags and commercial MS reagents: how using TMT labeling reagents will further their research
- Approach: how clear and well-developed is the proposed use of the TMT tags and MS reagents to address the questions at hand

All qualifying applications will be anonymized prior to presentation to the judges. The Applicants for the winning Grant Recipients will be notified of their selection on approximately March 31, 2018. The Applicant will be required to execute and return an Affidavit of Eligibility/Release of Liability/Assignment of Rights/Publicity Release (where legal) and the Grant Recipient will be required to execute and return an Acceptance of Grant document. The complete Official Rules, including grant proposal requirements, are available at **thermofisher.com/tmtgrant**. In case of any inconsistency between these short rules and the complete Official Rules, the complete Official Rules will always prevail.