

# The Ubiquitin Family

## Session 1 UBL CONJUGATION, REMOVAL AND RECOGNITION I

WEDNESDAY 4/25/2007, 7:30 PM

B. Schulman / D. Morgan

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
1	Schulman	Basis for a ubiquitin-like protein thioester switch toggling E1-E2 affinity	25
2	Burroughs	Genomic analysis uncovers novel prokaryotic ubiquitin-signaling systems	12
3	Jin	Uba6 and Use1 constitute a unique and specific activation and conjugation system for ubiquitin	12
4	Tan	Mechanisms of auxin perception by the SCF <sup>TIR1</sup> ubiquitin ligase	12
5	Wolf	Regulation of gluconeogenesis in yeast—A ubiquitin-proteasome catalyzed event	12
6	Morgan	E2 synergy in the polyubiquitination of APC targets	25
7	Wolberger	Mms2/Ubc13 covalently bound to ubiquitin reveals the structural basis of linkage-specific polyubiquitin chain formation	12
8	Huibregtse	Modulation of K63 polyubiquitination by a coupled ligase/DUB pair—Rsp5 and Ubp2	12
9	Rotin	High throughput ubiquitination screen using protein microarrays for the comprehensive identification of Rsp5 substrates in yeast	12

## Session 2 UBL CONJUGATION, REMOVAL AND RECOGNITION II

THURSDAY 4/26/2007, 9:00 AM

F. Melchior / M. Peter

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
10	Pichler	Ubc9 SUMOylation regulates SUMO target discrimination	12
11	Lima	Specificity in the SUMO pathway	12
12	Sixma	Non-covalent interaction between Ubc9 and SUMO promotes SUMO chain formation	12
13	Winborn	Ataxin-3, a polyglutamine disease protein, edits K63-linked and mixed linkage ubiquitin chains	12
14	Peter	A Cul3-based E3-ligase regulates AuroraB dynamics during mitosis	25
15	Messick	Structural basis for ubiquitin recognition by the OTU1 ovarian tumor domain protein	12
16	Peng	Complex polyUb chain structures analyzed by mass spectrometry	12
17	Wilkinson	Global proteomics analysis of <i>S. cerevisiae</i> polyubiquitin binding proteins using novel polyubiquitin analogs	12

## Session 3 POSTER SESSION I

THURSDAY 4/26/2007, 2:00 PM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
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18	Abdel-Hafiz	Modulation of the transcriptional activity of progesterone receptors by the SUMOylation pathway
19	Barbash	Characterization of phosphospecific cyclin D1 SCF <sup>Fbx4/<math>\alpha</math>B-crystallin</sup> ligase
20	Bian	Expression of K6W-ubiquitin leads to a cross-the-board up-regulation of molecular chaperones
21	Briant	Interactions between Smurf2, UbcH7 and Smad7
22	Zhao	The Slx5/8 complex negatively regulates Rad51-independent recombination via modulating SUMOylation
23	Buschhorn	Identifying interaction partners of the APC/C subunit Doc1 by photocrosslinking
24	Capili	Structure and analysis of a non-covalent complex between Ubc9 and SUMO illustrates features of a conserved E3-Ubl interaction
25	Carlson	High-throughput drug discovery tools for the ubiquitin-like proteins
26	Chou	Structure function analysis of DCN1
27	Cohn	Purification of a USP1 deubiquitinating enzyme protein complex reveals a new co-factor UAF1, as a key regulator of USP1 deubiquitinase activity
28	Dastur	The conjugation system for ISG15, an interferon-induced ubiquitin-like protein
29	Dimitrova	Studying the role of oligomerization in SCF <sup>TBL1</sup> mediated degradation of $\beta$ -catenin
30	Duda	Structure of a SUMO-binding-motif mimic bound to Smt3p-Ubc9p—Conservation of a noncovalent ubiquitin-like protein-E2 complex as a platform for selective interactions within a SUMO pathway
31	Errington	Structure and function of BTB proteins in Cullin-dependent ubiquitination
32	Benarous	RASSF1C, an isoform of the tumor suppressor RASSF1A, promotes the accumulation of $\beta$ -catenin by interacting with $\beta$ TrCP
33	Fujita	Stromal-mediated TGF- $\beta$ modulates APC-controlled chromatid separation
34	Fukushima	Association of Nedd4 with insulin receptor substrate-2 enhances IGF signals through its ubiquitin ligase activity
35	Gabriely	Multiple cellular roles for the Ddi1/Vsm1 ubiquitin receptor in yeast
36	Gareau	Dissecting the SUMO interacting motifs of Nup358/RanBP2
37	Germain-Desprez	Dynamics of PML SUMOylation/ubiquitination detected in living cells by BRET
38	Goldenberg	A novel assay platform for isopeptidase function and drug discovery
39	Lam	The analysis of a stalled 26S proteasome
40	Gupta	High throughput ubiquitination screen using protein microarrays for the comprehensive identification of Rsp5 substrates in yeast
41	Gutierrez	Degradation of JNK by the APC/C-Cdh1 is required for cell cycle progression
42	Takagi	Functional analysis of the yeast ubiquitin ligase Rsp5 under stress conditions—Regulation of expression of transcription factors HSF1 and MSN2/4
43	Haitani	Isolation and analysis of the yeast ubiquitin ligase Rsp5 with higher stress tolerance

44	Hamazaki	Impaired degradation of ubiquitinated proteins in Rpn10-deficient mice
45	Haririnia	Structural insights into Ede1 UBA domain's binding preference toward Lys63-linked polyubiquitin
46	Heuze	The ASB2 ubiquitin ligase complex—Linking cytoskeleton to transcriptional regulation
47	Himanen	The <i>Arabidopsis</i> ortholog of yeast Bre1 has function in cell cycle regulation during early organ growth
48	Hudson	Kelch functions with Cullin3 to remodel F-Actin in <i>Drosophila</i> ovarian ring canals
49	Hydbring	IFN- $\gamma$ induces Myc degradation via p27Kip1 by inhibiting Cdk2-mediated phosphorylation of Myc at target promoters resulting in transcriptional repression
50	Israel	Identification of SUMO and polySUMO binding proteins from mammalian cells
51	Iyer	An evolutionary perspective on the functional and structural diversity of the ubiquitin superfamily
52	Jandke	c-Jun is an essential substrate of the ubiquitin ligase Fbw7 in cerebellar development
53	Jeng	Regulation of TACC3 degradation
54	Kaganovich	Ubiquitination determines the partitioning of misfolded proteins between two distinct subcellular quality control compartments
55	Kirisako	Ubiquitin N-terminal region is critical for the head to tail polyubiquitination by LUBAC
56	Kitagaki	Identification of small molecule inhibitors of ubiquitylation
57	Roelofs	Proteasomal CP-RP stabilizing factors play distinct, but overlapping roles in the CP-RP interaction
58	Kubicek	Identifying targets and function of the ubiquitin related modifier Urm1 in <i>S. cerevisiae</i>
59	Kulikov	The ubiquitin ligase Mdm2 links p53 to the 19S regulatory subunit of the proteasome
60	Kurz	Structural and functional analysis of the conserved Cullin Neddylation factor Dcn1p
61	Kusmierczyk	Subunit interactions during 20S proteasome assembly

**Session 4 NUCLEAR FUNCTIONS OF UBL PROTEINS**

THURSDAY 4/26/2007, 7:30 PM

M. Dasso / A. D'Andrea

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
62	Dasso	Nucleolar SUMO proteases SENP3 and SENP5 are important for ribosome biogenesis in mammalian cells	
63	Kowenz-Leutz	SUMOylation and interdependent post-translational C/EBP $\beta$ modifications	12
64	Gill	Regulation of the dual function transcription factor Sp3 by SUMO modification	12
65	Sun	Conserved function of RNF4 family proteins in eukaryotes—Targeting a ubiquitin ligase to SUMOylated proteins	12
66	Braun	Characterization of RKR1, a novel ubiquitin-protein ligase with functional connections to chromatin modification in <i>S. cerevisiae</i>	12

67	D'Andrea	Regulation of the Fanconia Anemia/BRCA pathway by FANCD2 monoubiquitination and deubiquitination	25
68	Zhang	Telomeric-dysfunction mediated REST/NRSF proteasomal degradation plays paradoxical roles in neurogenesis and tumorigenesis	12
69	Green	Mono-ubiquitination in translesion synthesis	12
70	Ulrich	Activation of ubiquitin-dependent DNA damage bypass	12

**Session 5 SUBSTRATE TARGETING AND DEGRADATION**

FRIDAY 4/27/2007, 9:00 AM

T. Baker / C. Hill

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
71	Baker	Distinct roles of ClpS in ClpAP in selection of N-end rule and other substrates	25
72	Mayor	Quantitative mass spectrometry analysis of the ubiquitin proteasome system and the Rpn10 proteasome receptor pathway	12
73	Goldberg	The C-terminal residues of PAN and 19S ATPases function like a "key in a lock" to cause gate opening in the 20S proteasome	12
74	Hathaway	Role of ubiquitin chain linkage in cyclin B1 degradation	12
75	Skowyra	SCF E3 collaborates with the proteasome to coordinate substrate recruitment with other steps in the catalytic cycle	12
76	Hill	Mechanisms of activating proteasomes and targeting to lysosomes/viral budding	25
77	Chen	Defining how ubiquitin receptors hHR23a and S5a bind polyubiquitin	12
78	Fushman	Ubiquitin core mutations differentially affect its recognition by the proteasomal receptors UBA and UIM	12
79	Rao	Rad23 regulates the degradation of distinct substrates through different co-factors	12

**Session 6 POSTER SESSION II**

FRIDAY 4/27/2007, 2:00 PM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
80	Lenschow	Role of protein conjugation in the anti-viral activity of interferon stimulated gene 15 (ISG15)	
81	Margottin-Goguet	HIV1 Vpr arrests the cell cycle by recruiting DCAF1/VprBP, a receptor of the Cul4/DDB1 ubiquitin ligase	
82	LeBoucher	Restoration of Fzo1p defective degradation using a ubiquitin-dependent degron reconstitutes mitochondrial function	
83	Lee	Ubiquitin-proteolytic control of HOX homeodomain proteins	
84	Wardega	Alix involvement in c-Cbl-PDGFR $\beta$ complex regulates receptor downregulation	
85	Lin	Zip3, the meiosis-specific SUMO E3 ligase, promotes synapsis between homologous chromosomes during meiosis	
86	Yang	EGF-induced degradation of activated Cdc42-associated tyrosine kinase 1 (ACK1)	
87	Walters	Defining how quality control pathways recognize NAT variants	

88	Luna-Vargas	High throughput structural and functional analysis of the ubiquitin specific protease family
89	Malyukova	Frequent inactivation of the tumor suppressor gene <i>hCDC4</i> in human T-cell acute lymphoblastic leukemia
90	Vertegaal	SUMO-1, SUMO-2 and SUMO-3 polymerize in vivo via the internal SUMOylation sites of SUMO-2 and SUMO-3
91	Medicherla	Heat shock and oxygen radicals in <i>S. cerevisiae</i> stimulate selectively the degradation of newly synthesized proteins by the ubiquitin-proteasome pathway
92	Meng	Identification of E3 ubiquitin ligase substrates on protein arrays
93	Menon	The role of CSN8 in T cell activation and cell cycle control revealed by conditional knockout in mouse
94	Wei	The DDB1-like protein SAP130/SF3b-3 is a cullin binding protein, and is regulated by the neddylation pathway
95	Meroni	The TRIM family, a large class of ubiquitin E3 ligases
96	Merrill	Pc2 enhances Akt-mediated CtBP phosphorylation
97	Neuber	Ubx2 links the Cdc48 complex to ER-associated protein degradation
98	Orlicky	Exploration of the multisite phosphorylation dependency of Sic1 binding to Cdc4
99	Ossareh-Nazari	The role of Bre5 in the Ubp3/Bre5 deubiquitinating complex
100	Ouni	A potential role for the yeast transcription factor Met4 in regulation of protein stability
101	Ouyang	Functional specificity of the related SUMO-specific proteases SENP3 and SENP5
102	Collart	The yeast Ccr4-Not complex controls ubiquitination of ribosome and ribosome-associated proteins
103	Parachoniak	Dual role of Eps15 in Met receptor tyrosine kinase downregulation
104	Pereira	Mutation of the two critical proline residues of the hypoxia-inducible factor-1 $\alpha$ does not prevent protein degradation at normoxia
105	Preall	Ubiquitin modulates assembly of RNA-induced silencing complexes in <i>D. melanogaster</i>
106	Proia	In vitro functional analysis of ubiquitin and ubiquitin like protein deconjugating enzymes
107	Feng	Parkin attenuates MAP kinase activation induced by microtubule depolymerization
108	Rodriguez	Age-related changes in the mouse proteasome
109	Shih	Daxx is a SUMO reader in transcriptional control
110	Rahimi	A critical role for the E3-ligase activity of c-Cbl in VEGFR-2-mediated PLC $\gamma$ 1 activation and angiogenesis
111	Singhal	Analysis of potential nuclear localization and export signals in the mouse Usp15 deubiquitylating enzyme
112	Mercer	The ankyrin repeat family of poxvirus proteins constitutes a novel class of F-box proteins
113	Sowards	Ubiquitin-dependent degradation of the mating-type regulator MAT $\alpha$ 1
114	Appikonda	Mechanism of multiubiquitination by human Cdc34 and the Cullin-RING ubiquitin ligase

115	Summers	Activation of the anaphase promoting complex by UbcH10—Are all chains created equal?
116	Swaminathan	Chain specific poly-ubiquitination of prolactin receptor is required for its degradation via the lysosomal pathway
117	Tang	Suprafacial orientation of the SCF <sup>Cdc4</sup> dimer facilitates ubiquitin chain elongation
118	Tatsumi	Ufm1-conjugating system is essential for normal erythropoiesis
119	Uchiki	The UIM protein, S5A, is rapidly ubiquitinated by a wide variety of ubiquitin ligases by a mechanism not involving typical substrate recognition
120	Dantuma	Minimal substrate length for efficient proteasomal degradation
121	Wang	Regulation of retrotranslocation by p97-associated deubiquitinating enzyme ataxin-3
122	Wang	Specificity of the isopeptidase activity of otubain 1 in disassembling polyubiquitin chain
123	Wang	Tying SUMO modifications to dynamic behaviors of chromosomes during meiotic prophase of <i>S. cerevisiae</i>
124	Wang	Mass spectrometric characterization of the affinity purified human 26S proteasome complex
125	Whitcomb	A new role for UbcH7 in cell cycle progression
126	Yashiroda	Identification and characterization of novel proteasome associated proteins in <i>S. cerevisiae</i>
127	Yurchenko	SUMOylation stabilizes Ku70
128	Schindelin	The role of peptide:N-Glycanase in the degradation of misfolded glycoproteins
129	Zhou	The CLLD7 protein functions as a substrate adaptor for CUL3-based E3 ligase

**Session 7 REGULATION OF INTRACELLULAR PATHWAYS**

FRIDAY 4/27/2007, 7:30 PM

K. Gould / P. Jackson

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
130	Gould	Cryo-EM structure of the APC	
131	Rape	A novel ubiquitin -dependent switch controls the metaphase to anaphase transition	12
132	Ayad	Cell based screening identifies novel regulators of the anaphase promoting complex	12
133	Solomon	Mad3 functions as a pseudosubstrate inhibitor of the APC <sup>Cdc20</sup> in the spindle assembly checkpoint in budding yeast	12
134	Yen	A genomic approach for regulation of protein turnover	12
135	Jackson	The END network couples spindle pole assembly to inhibition of the anaphase promoting complex/cyclosome in early mitosis	25
136	Lu	USP19 supports cell growth by stabilizing KPC1, a ubiquitin protein ligase for p27	12
137	Shackelford	Ubiquitin C-terminal hydrolase L1 stabilizes and activates $\beta$ -catenin through deubiquitination	12
138	Lin	Disruption of cyclin D1 nuclear export and proteolysis accelerates mammary carcinogenesis	12

**Session 8 QUALITY CONTROL**

SATURDAY 4/28/2007, 9:00 AM

K. Tanaka / J. Frydman

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
139	Tanaka	Protein quality control by constitutive autophagy	25
140	Tan	p62 and K63-linked ubiquitination—Partners in autophagy?	12
141	Ehrlich	Cullin5-RING E3 ubiquitin ligase—A link to Hsp90 client protein degradation	12
142	Cohen	The ubiquitin-proteasome system regulates critical components of the mitochondrial fusion apparatus	12
143	Ye	A ubiquitin ligase transfers preformed polyubiquitin chains from a conjugating enzyme to a substrate	12
144	Frydman	Pathways of quality control of misfolded cytosolic proteins	25
145	Tcherpakov	JAMP—A 7 trans-membrane protein that anchors proteasome to the ER to facilitate the ER stress response	12
146	Gauss	The HRD ligase—Coupling ER quality control and protein degradation	12
147	Pearce	SPFH2 mediates the ER-associated degradation of IP <sub>3</sub> receptors and other substrates in mammalian cells	12

**Session 9 UBLs IN SIGNALING I**

SATURDAY 4/28/2007, 2:00 PM

P.P. DiFiore / I. Dikic

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
148	DiFiore	The role of the ubiquitination in the integration of EGFR signaling and endocytosis	25
149	Amerik	A conserved late endosome-targeting signal required for Doa4 deubiquitylating enzyme function	12
150	Knobloch	Conditional inactivation in mice reveals an essential role for USP8(UBPy) in endocytic trafficking and receptor tyrosine kinase stability	12
151	Kleijnen	The ubiquitin-proteasome system regulates membrane fusion of yeast vacuoles	12
152	Lauwers	Membrane sphingolipids are essential for normal ubiquitination control of the general amino acid permease Gap1	12
153	Dikic	Ubiquitin signaling pathways	25
154	Barriere	Plasticity of oligoubiquitin recognition as lysosomal targeting signal by the endosomal sorting machinery	12
155	Kostelansky	Structural, biochemical, and biophysical analysis of the ESCRT-I trafficking complex	12
156	Pece	Numb is part of a multi-protein complex regulating p53 ubiquitination status and function through Hdm2—Implications for human breast tumorigenesis and anti-cancer therapy	12

**Session 10 UBLs IN SIGNALING II**

SUNDAY 4/29/2007, 9:00 AM

Z. Chen / A. Bonni

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
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157	Chen	Ubiquitin-mediated activation of TAK1 and IKK	25
158	Busino	The ubiquitin ligase SCF <sup>Fbxl3</sup> controls the oscillation of the circadian clock by directing the degradation of cryptochrome proteins	12
159	Tian	A novel role of the transcriptional coregulator TAZ as a component of a SCF $\beta$ -Trcp E3 ligase complex	12
160	Bonni	Regulation of neuronal connectivity by the ubiquitin family	25
161	Carrano	The HECT E3 ligase WWP-1 regulates stress resistance and longevity via dietary restriction in <i>C. elegans</i>	12
162	Hoppe	The ubiquitin-selective chaperone CDC-48/p97 links myosin assembly to human myopathy	12
163	Giannakopoulos	Viral otubain-like domains can deconjugate both ubiquitin and ISG15 conjugates	12