## **Supplemental Information**

Transcription Factors Activate Genes through the Phase-Separation Capacity of Their Activation Domains

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Table S1. Related to Figure 1. Table of reported transcription factor-mediator subunit interactions.

Mediator subunits	Transcription factors								
MED1	OCT3/4 <sup>1</sup>	SOX2 <sup>1</sup>	GATA2 <sup>2</sup>	MYC <sup>3</sup>	P53 <sup>4–6</sup>	PPARG <sup>7</sup>	RARA <sup>8,9</sup>	ER1 <sup>10–12</sup>	CEBPA <sup>13</sup>
	VDR <sup>8,14</sup>	RXRA <sup>8,9</sup>	GATA1 <sup>15,16</sup>	THRA/THRB <sup>8,9</sup>	HNF4 <sup>17</sup>	AHR <sup>18</sup>	AR <sup>19</sup>	SREBP1 <sup>20</sup>	NR1I3 <sup>21</sup>
	RORa <sup>22</sup>	GR <sup>21,23</sup>	FXR <sup>24</sup>	Pit-1 <sup>2</sup>	PPARA <sup>8,9</sup>	ER2 <sup>10–12</sup>	KLF4 <sup>1</sup>		
MED12	ER1 <sup>10</sup>	SOX9 <sup>25</sup>	THRA <sup>26</sup>	GLI3 <sup>27</sup>	NANOG <sup>28</sup>	ER2 <sup>10</sup>	JUNB <sup>29</sup>	VDR <sup>14</sup>	SREBF1 <sup>20</sup>
	RTA <sup>30</sup>	B-CATENIN <sup>31</sup>	AICD <sup>32</sup>						
MED14	PPARG <sup>33</sup>	ER1 <sup>10</sup>	VDR <sup>14</sup>	HNF4 <sup>17</sup>	ER2 <sup>10</sup>	JUNB <sup>29</sup>	NR1I3 <sup>34</sup>	GATA1 <sup>15</sup>	SREBF1 <sup>20</sup>
	GR <sup>21</sup>								
MED15	P65 <sup>20</sup>	JUNB <sup>29</sup>	SREBF1 <sup>35</sup>						
MED16	THRA <sup>26</sup>	DIF <sup>36</sup>	VDR <sup>14</sup>	MYC <sup>3</sup>	JUNB <sup>29</sup>				
MED17	SREBF1 <sup>37</sup>	P65 <sup>38</sup>	FOS <sup>29</sup>	HNF4A <sup>17</sup>	DIF <sup>36,39</sup>	RXR <sup>39</sup>	JUNB <sup>29</sup>	NR1I3 <sup>34</sup>	HSF <sup>40</sup>
	VP16 <sup>26</sup>								
MED19	REST <sup>41</sup>								
MED21	SREBF1 <sup>37</sup>	P53 <sup>42</sup>	VDR <sup>26</sup>	THRA/THRB <sup>43</sup>					
MED23	SREBF1 <sup>20</sup>	ELF3 <sup>44</sup>	NR1I3 <sup>34</sup>	RB1 <sup>45</sup>	DIF <sup>36</sup>	HIF <sup>46</sup>	VDR <sup>14</sup>	C/EBP <sup>47</sup>	P65 <sup>20</sup>
	ELK1 <sup>48,49</sup>	HSF <sup>35</sup>	ESX <sup>44</sup>						
MED25	VP16 <sup>50,51</sup>	DIF <sup>35</sup>	HSF <sup>35</sup>	RARA <sup>52</sup>	HNF4 <sup>53</sup>	SOX9 <sup>54</sup>			
MED26	SREBF1 <sup>20</sup>								
MED29	JUNB <sup>29</sup>	DSX <sup>55</sup>							
CDK8	THRA <sup>26</sup>	MYC <sup>56</sup>	24.457						

Adapted from Borggrefe and Xue, 2011<sup>57</sup>.

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