Supplementary Material

The ER Stress Transducer IRE1β Is Required for Airway Epithelial Mucin Production

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Running Title: IRE1β and Airway Mucins

Probe Sets in Top 100 Correlated Genes				
Gene	**IRE1α Human**	**IRE1β Human**	**IRE1α Mouse**	**IRE1β Mouse**
Fucosyltransferases	None	**FUT2(2), FUT6(5), FUT3(2)**	None	None
Sialyltransferase	None	**ST6GALNAC1**	None	None
Carbohydrate sulfotransferase	None	**CHST5(2)**	None	**Chst4**
UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase	None	**B3GNT3, B3GNT6**	None	**B3gnt3**
glucosaminyl (N-acetyl) transferase 3, mucin type	None	None	None	**Gcnt3(3)**
UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase	None	None	None	**Galnt12, Galnt4(2)**
beta-1,4-N-acetyl-galactosaminyl transferase	None	None	None	**B4galnt2(2)**

Gene Rank	**Of 54,617 Probe Sets**		**Of 45,041 Probe Sets**	
	IRE1α Human	**IRE1β Human**	**IRE1α Mouse**	**IRE1β Mouse**
SPEDF	12691, 27116, 35057, 35390, 40325	**53, 85**	22853	**3**
AGR2	45441, 44137	**51, 151**	29847, 29859	**10, 44**
Trefoil factor (TFF3)	43675	**131**	25595	**28**
CLCA1/3 (Gob5)	25598	**457**	25569, 30475	**15, 52**

Table 1. IRE1β gene expression is associated with genes involved in mucin/mucus production in human and mouse RNA microarrays.
Top: Mucin glycosylation enzymes are highly represented in the top 100 genes that correlate with IRE1β. No correlation was found for IRE1α. Bottom: Ranking correlation with IRE1α or IRE1β of genes involved in mucin/mucus production. Values represent the ranking correlation number from gene probe sets from human and mouse arrays (from a total of 54,617 and 45,041 probe sets, respectively).