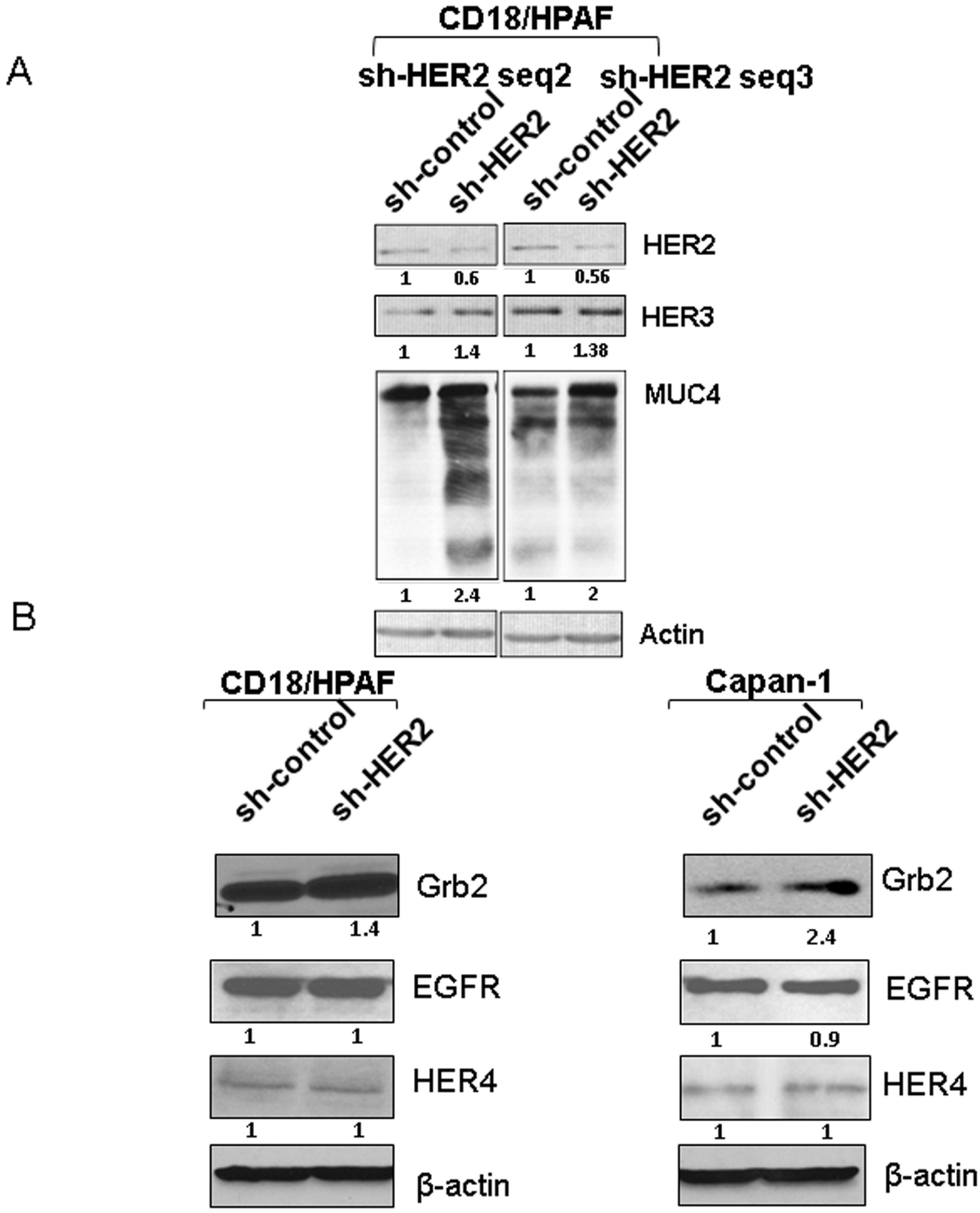
SUPPLEMENTARY FIGURES



Supplementary Figure S1: Effect of HER2 knockdown on expression of Grb2, EGFR and HER4. A. Represents upregulation of MUC4 and HER3 in HER2 knockdown (sh-HER2 seq-2 and Seq-3) pancreatic cancer cells CD18/HPAF. **B.** As a result of HER2 silencing, Grb2 levels significantly increased as shown in immunoblot studies using two stable knockdown (~40%) pancreatic cancer cells (CD18/HPAF and Capan-1) when compared to scrambled control cells. There was no change in EGFR and HER4 levels in both the pancreatic cancer cells.

Range 1: 22 to 997 Graphics ▼ Next Match ▲ Previous Match

Score	Expect	Method	Identities	Positives	Gaps
900 bits(2327)	0.0	Compositional matrix adjust.	465/983(47%)	621/983(63%)	29/983(2%)

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HER2

Sequence search results

Show the detailed description of this results page.

We found **6** Pfam-A matches to your search sequence (**5** significant and **1** insignificant). You did not choose to search for Pfam-B matches.

Show the search options and sequence that you submitted.

Return to the search form to look for Pfam domains on a new sequence.

HER3

Sequence search results

Show the detailed description of this results page.

We found **5** Pfam-A matches to your search sequence (**all** significant). You did not choose to search for Pfam-B matches.

Show the search options and sequence that you submitted.

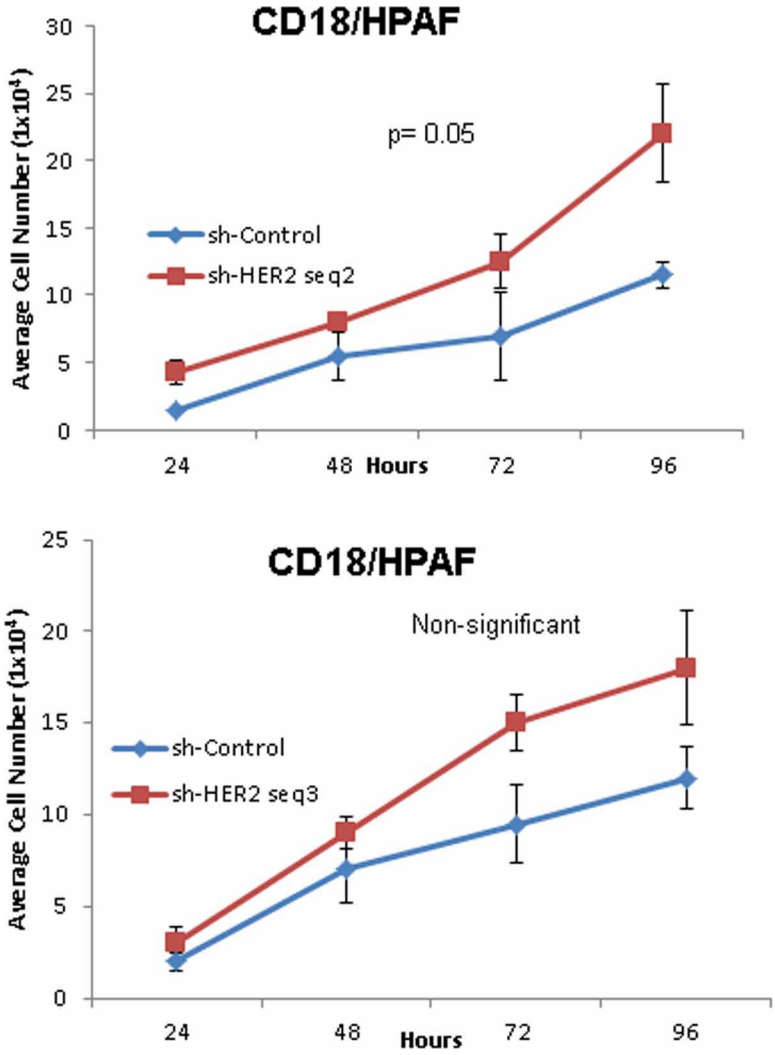
Return to the search form to look for Pfam domains on a new sequence.

Significant Pfam-A Matches

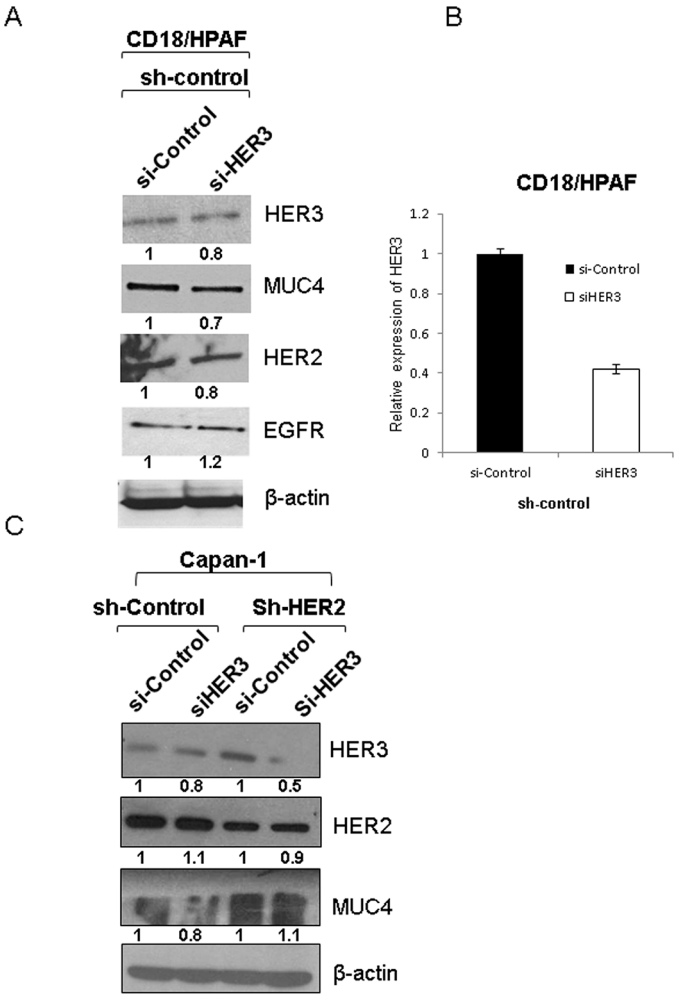
Show or hide all alignments.

Family	Description	Entry type	Clan	Envelope		Alignment		HMM		HMM length	Bit score	E-value	Predicted active sites	Show/hide alignment
				Start	End	Start	End	From	To					
Recep_L_domain	Receptor L domain	Domain	n/a	55	167	56	166	2	111	112	104.3	3.4e-30	n/a	Show
Furin-like	Furin-like cysteine rich region	Domain	CL0547	169	332	182	332	11	149	149	108.0	3e-31	n/a	Show
Recep_L_domain	Receptor L domain	Domain	n/a	353	474	353	472	1	110	112	102.4	1.3e-29	n/a	Show
GF_recep_IV	Growth factor receptor domain IV	Domain	CL0547	499	630	499	629	1	131	132	162.4	3.7e-48	n/a	Show
Pkinase_Tyr	Protein tyrosine kinase	Domain	CL0016	709	965	710	964	2	258	259	259.4	2.5e-77	n/a	Show

Supplementary Figure S2A and S2B: Bioinformatic prediction of MUC4 and HER3 interaction. S2A. Sequence alignment between Her2 and Her3 shows 47% identity and 63% positives suggesting a close relationship between these two sequences. **S2B.** Domain structure analysis of Her2 and Her3 also reveals almost identical structure indicating functional similarity between these two proteins.



Supplementary Figure S3A and S3B: Effect of HER2 knockdown (two other shHER2) on growth rate of pancreatic cancer cells. In order to validate the HER2 knockdown studies, we utilized the other two shHER2 sequence for growth kinetic assay. As a result of HER2 knockdown we also observed increased proliferation in HER2 knockdown cells in comparison to scramble control cells.



Supplementary Figure S4: Transient knockdown of HER3 in Capan-1 cells. The results show that the effect of HER3 knockdown on HER2 and MUC4 expression.