



	Experiment title: Structure of the TRAIL-DR5 complex reveals mechanisms conferring specificity in apoptotic initiation	Experiment number: LS-1128
Beamline: ID2	Date of experiment: Various from: 1998 to: 1999	Date of report: 22/03/2000
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Report:

TRAIL, an apoptosis inducing ligand, has at least four cell surface receptors including the death receptor DR5. Here we report the crystal structure at 2.2 Å resolution of a complex between TRAIL and the extracellular region of DR5. TRAIL forms a central homotrimer around which three DR5 molecules bind. Radical differences in the surface charge of the ligand, together with variation in the alignment of the two receptor domains confer specificity between members of these ligand and receptor families. The existence of a switch mechanism allowing variation in receptor domain alignment may mean that it is possible to engineer receptors with multiple specificities by exploiting contact positions unique to individual receptor-ligand pairs.